

# Liquidity – little understood, even before MiFID II

By Keith Hiscock CEO, Hardman & Co



Source: iStock

Liquidity is the lifeblood of a market and one key reason to list on a stock market. The coming into force of MiFID II in January 2018 is expected to result in a collapse in the commission 'pot', making it uncommercial for brokers to write research about most small and mid-cap stocks. Dramatically less research and weaker distribution is going to hit liquidity. Yet even before the revolution that is MiFID II hits, low liquidity is the 'hidden issue' that most managements have not been told about or grasped, and whose implications cannot be ignored any longer. This paper explores the reality of liquidity. It concludes that AIM companies with market capitalisations below £700m, and Main Market companies smaller than £500m, should not expect anyone other than the house broker, and a paid-for research house such as Hardman, if they engage one, to cover them after January 2018.



#### **Overview**

Liquidity is key...

Private companies go public for two reasons. First, they may want to raise money to pursue their growth ambitions and, secondly, they want to make it easier for existing shareholders to trade in their shares; of course, knowing that there will be a secondary market after a fundraising reassures investors who have participated in it. The key to both is liquidity which is, after all, the essence of a 'market'. A market without goods or services changing hands, i.e. liquidity, is not a genuine market.

Larger investors, in particular, are interested in liquidity because, the greater the liquidity in a particular company, the easier it is to build up a position or dispose of one. Indeed, most large institutions use a liquidity filter to judge whether they should even bother considering a stock for their portfolio.

Information on companies is critical to liquidity, with research playing a key role. Good research helps investors to understand the financial levers in a business and the factors which are critical to its success; real analysis then makes assumptions about these factors in the future to produce forecasts. Furthermore, proper research puts a company into an investment context, finding relevant peers and considering how investors view these peers to help assess the company in question.

The January 2018 step-change...

There are two challenges for companies and investors to contemplate. First, institutional brokers need a commercial case to write research and secondly companies are often unaware (though investors certainly are) of how limited a broker's distribution actually is. After MiFID II's introduction (January 2018), the economics of running an institutional broker will fundamentally change as will their ability to distribute research. As a result, most quoted companies will see the number of analysts following them shrink dramatically and the audience brokers reach contract as well.

Combining our model of a broker's research department¹ with our analysis of market liquidity we believe that few companies with market caps below £700m on AIM or £500m on the Main Market will have ANYONE other than the house broker, or a paid-for research house such as Hardman, covering them. In the post MiFID II research environment, companies should be aware of the commission 'pot' that trading in their shares generates, because it will explain how many brokers, if any other than the house one, they can realistically expect to cover them. Our modelling in the aforementioned paper, suggested that, just to break even, an institutional broker needs to generate £30,000 commission a year in every non-house stock it covers. The data presented here about the commission generated will come as a shock to many managements.

£30,000 minimum annual commission for non-house stock...

For some years now, Hardman has maintained its own database, constructed from London Stock Exchange data, to help individual companies understand issues around their liquidity and to identify the best target investor audiences. Our database contains the details for trade size and commission for every quoted company over every period and is used to compare each company with a peer group of similarly sized companies or other companies in the same sector. PLC

<sup>&</sup>lt;sup>1</sup> Jason Streets: 'Why broker research coverage of non-clients is collapsing', October 2016



boards wishing to understand their own situation – and the MiFID II induced changed environment -are welcome to request this data.

### Average market turnover & commission by market cap size band for Main Market companies

The Hardman database...

We think the best way to analyse liquidity and commission generated is to split the market into market capitalisation baskets, or bands. We have made a number of adjustments to the raw data from the LSE, eliminating most investment trusts (but not REITs) and companies whose main quote is overseas, such as Boeing and Commerzbank; for the full detail please refer to the methodology in the Appendix.

Figure one shows the data for Main Market listed stocks for three periods: the 12 months to end December 2015, 12 months to end December 2016 and the 12 months to end July 2017.

In the latter case, there is a data point overlap, namely the last five months of 2016. Hence, these figures are not strictly comparable but they do provide a clear indication of trends.

Figure 1: Liquidity on the London Stock Exchange Main Market					
	Average Annual V	erage Annual Value of Shares Traded (£) – Main Market		% CI	nange
Mkt cap band £m	12m to Dec 15	12m to Dec 16	12m to July 17	2016/15	2017/16*
0-25	2,519,794	5,464,406	5,899,717	216.9%	108.0%
25-50	8,381,889	6,735,301	16,991,854	80.4%	252.3%
50-75	12,611,463	37,459,517	18,703,090	297.0%	49.9%
75-100	23,525,955	31,063,630	43,238,197	132.0%	139.2%
100-200	48,299,035	46,904,850	33,293,531	97.1%	71.0%
200-300	108,609,020	95,175,255	145,573,443	87.6%	153.0%
300-400	92,169,954	206,930,613	182,803,492	224.5%	88.3%
400-500	256,425,979	196,691,449	185,239,118	76.7%	94.2%
500-600	268,967,247	245,811,265	292,570,027	91.4%	119.0%
600-700	230,372,703	349,196,437	315,426,190	151.6%	90.3%
700-800	365,898,573	357,772,547	415,347,507	97.8%	116.1%
800-900	533,734,136	524,329,455	300,918,300	98.2%	57.4%
900-1,000	445,373,776	467,727,772	499,496,882	105.0%	106.8%
>1,000	4,819,154,040	5,066,226,859	5,117,726,119	105.1%	101.0%

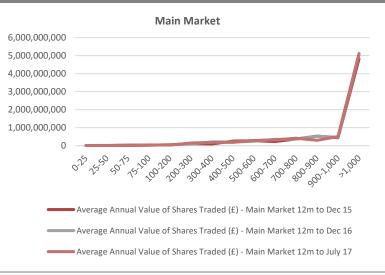
Source: London Stock Exchange, Hardman & Co \*N.B. some data points overlap

Not surprisingly the larger the size band, generally the larger the value traded per company; i.e. in the 12 months to December 2015 the average company in the size band £0-25m traded £2,519,794, whilst the average for £25-50m was £8,381,889.

The '% Change' data to the right shows the 2016 result as a percentage of the 2015 number: a figure below 100% indicates a shrinkage. Of the selected universe of companies, the average turnover in 2016 is 5.8% higher than 2015 but has fallen marginally in 2017.

Looked at in a chart (Figure 2), it is clear that liquidity really kicks in above a market capitalisation of £1 billion.

Figure 2: Average Annual Value of Shares Traded by Market Cap Band per 12m Period



Source: London Stock Exchange, Hardman & Co

Where does the commission 'sweet spot' lie?...

But what do these numbers mean in commission generated? The commission generated number in Figure 3 is computed from the value traded, using two assumptions. First, that every trade attracts commission, when we know that some trades (primarily in the FTSE 100) are on a net basis. Second, we have applied a uniform commission rate of 10 basis points; private clients will pay more, institutions will generally pay a lot less. Thus, the average Main Market stock with a market capitalisation of between £100m and £200m would have generated a pot of £33,294 in the 12 months to July 2017.

Main Market						
Mkt cap band £m	12m to Dec 15	12m to Dec 16	12m to July 17*			
0-25	2,520	5,464	5,900			
25-50	8,382	6,735	16,992			
50-75	12,611	37,460	18,703			
75-100	23,526	31,064	43,238			
100-200	48,299	46,905	33,294			
200-300	108,609	95,175	145,573			
300-400	92,170	206,931	182,803			
400-500	256,426	196,691	185,239			
500-600	268,967	245,811	292,570			
600-700	230,373	349,196	315,426			
700-800	365,899	357,773	415,348			
800-900	533,734	524,329	300,918			
900-1,000	445,374	467,728	499,497			
>1,000	4,819,154	5,066,227	5,117,726			

Source: London Stock Exchange, Hardman & Co \*some data points overlap



### Average market turnover & commission by market cap size band for AIM market companies

Figures 4, 5 and 6 below replicate the data presented above for the AIM market.

Figure 4: Liquidity on the London Stock Exchange AIM Market					
Average Annual Value of Shares Traded (£) - AIM					ation
Mkt cap band £m	12m to Dec 15	12m to Dec 16	12m to July 17	2016/15	2017/16*
0-25	3,532,581	5,515,554	8,096,393	156.1%	146.8%
25-50	14,031,262	14,181,080	16,281,798	101.1%	114.8%
50-75	22,634,108	19,805,625	27,661,511	87.5%	139.7%
75-100	28,886,081	26,879,018	54,057,598	93.1%	201.1%
100-200	38,138,012	54,820,824	43,322,202	143.7%	79.0%
200-300	71,549,054	93,765,989	112,984,546	131.1%	120.5%
300-400	72,660,705	132,176,014	154,705,830	181.9%	117.0%
400-500	243,651,188	266,162,386	209,479,325	109.2%	78.7%
500-600	86,141,800	64,199,325	249,903,425	74.5%	389.3%
600-700	192,367,338	210,607,387	241,410,023	109.5%	114.6%
700-800	116,484,738	538,524,622	397,633,503	462.3%	73.8%
800-900	345,178,600	857,632,754	767,929,211	248.5%	89.5%
900-1,000	225,926,811	n/a	117,242,780	N/a	N/a
>1,000	1,148,199,964	1,709,824,225	2,035,132,390	148.9%	119.0%

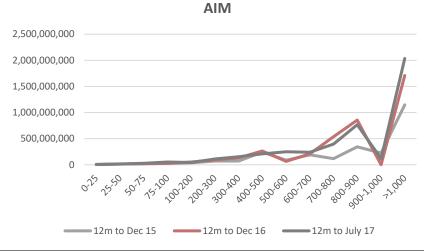
Source: London Stock Exchange, Hardman & Co

AIM turnover has grown faster than the Main Market...

As with our Main Market analysis, there is a data point overlap with respect to the last five months of 2016. Hence, the figures are not strictly comparable but they do provide evidence of a trend.

Average turnover on AIM has grown faster than on the Main Market. Of the selected universe of companies, the average turnover rose by 53% in 2016.

Figure 5: Average Annual Value of Shares Traded by Market Cap Band



Source: Hardman & Co Research

Again, only once a company's market cap approaches £1 billion does liquidity really take off.

<sup>\*</sup> N.B. some data points overlap significantly



Hypothetical commission by Market Cap band...

AIM				
Mkt cap band £m	12m to Dec 15	12m to Dec 16	12m to July 17*	
0-25	3,533	5,516	8,096	
25-50	14,031	14,181	16,282	
50-75	22,634	19,806	27,662	
75-100	20 006	26 970	E4.0E9	

Figure 6: Average Commission at 10 bps by Market Cap Band (£)

Mkt cap band £m	12m to Dec 15	12m to Dec 16	12m to July 17*
0-25	3,533	5,516	8,096
25-50	14,031	14,181	16,282
50-75	22,634	19,806	27,662
75-100	28,886	26,879	54,058
100-200	38,138	54,821	43,322
200-300	71,549	93,766	112,985
300-400	72,661	132,176	154,706
400-500	243,651	266,162	209,479
500-600	86,142	64,199	249,903
600-700	192,367	210,607	241,410
700-800	116,485	538,525	397,634
800-900	345,179	857,633	767,929
900-1,000	225,927		117,243
>1,000	1,148,200	1,709,824	2,035,132

Source: London Stock Exchange, Hardman & Co \*N.B. some data points overlap

#### Comparing Main and AIM – some surprising results

Figure 7 gives a snapshot of the relative liquidity of the two sections of the London Stock Exchange. A minus figure in the 'Difference' column means that, for that size band, there was greater turnover for the average company on AIM than on the Main Market.

The £200m AIM liquidity threshold

Surprisingly, up to the £200m market cap level (with the exception of £25-50m), the average company on AIM has greater liquidity that that on the Main market. However, beyond £200m, companies quoted on the Main Market generally have the greater liquidity, with a couple of exceptions. We can discount the £800-900m band since there is only one company in this basket quoted on AIM.

Figure 7: Average Annual Value of Shares Traded (£) - Main v AIM 12m to July 17					
Mkt cap band £m	Main	No of cos	AIM	No of cos	Difference
0-25	5,899,717	40	8,096,393	420	-2,196,675
25-50	16,991,854	19	16,281,798	144	710,056
50-75	18,703,090	8	27,661,511	81	-8,958,422
75-100	43,238,197	17	54,057,598	47	-10,819,401
100-200	33,293,531	43	43,322,202	94	-10,028,671
200-300	145,573,443	49	112,984,546	42	32,588,898
300-400	182,803,492	37	154,705,830	21	28,097,662
400-500	185,239,118	31	209,479,325	12	-24,240,208
500-600	292,570,027	16	249,903,425	10	42,666,602
600-700	315,426,190	17	241,410,023	10	74,016,167
700-800	415,347,507	21	397,633,503	10	17,714,005
800-900	300,918,300	15	767,929,211	1	-467,010,911
900-1,000	499,496,882	11	117,242,780	2	382,254,101
>1,000	5,117,726,119	277	2,035,132,390	14	3,082,593,730

Source: London Stock Exchange, Hardman & Co

October 2017 6



The bell tolls for non-house research...

### How these numbers explain the lack of research on smaller companies, even before MiFID II

Our monograph 'Why broker research coverage of non-clients is collapsing' by Jason Streets sought to understand where the economic model of institutional brokers would make it uncommercial to cover non-house stocks. For non-house stocks, the broker would also expect to generate otherwise revenues, apart from secondary commission, such as a corporate retainer and substantial fees on fundraising. Our conclusion was that, under their current business models, brokers need to earn a minimum of £30,000 commission per non-house stock covered just to break even. Of course, the evidence is that the house broker does half the trade in most small and mid-cap stocks (this comes as a surprise to many CEOs and CFOs, in our experience).

On our assumptions, in the £100-200m bracket on AIM in the 12 months to July 2017, a non-house broker would expect to compete for a commission 'pot' of £21,661 (£43,322x 50%), not enough to break even, assumingly it could capture the entire non-house broker trade! Of course, the picture is even worse for the Main Market where the commission available might be only £16,647 (£33,294 x 50%).



## MiFID II will kill the commercial case for non-house broker research below £700m market cap on AIM and £500m on Main

Commission to fall by up to 75%?...

From January 2018 (post-MiFID II), most commentators expect the institutional pot available to pay for research to fall by up to 75%. If that is the case, our analysis suggests that broker research on non-house stocks will shrink dramatically.

Figure 8 shows the consequences of introducing two assumptions to the data on secondary commission set out above. The two assumptions are that, first, the commission pot shrinks by 75%, equally across the market cap baskets and, secondly, that the house broker accounts for half the trade in all size bands.

Figure 8:

Average annual commission that would have been available to Non-House Brokers in 12m to July 2017 post MiFID II

Mkt cap band £m	Main	AIM
0-25	737	1,012
25-50	2,124	2,035
50-75	2,338	3,458
75-100	5,405	6,757
100-200	4,162	5,415
200-300	18,197	14,123
300-400	22,850	19,338
400-500	23,155	26,185
500-600	36,571	31,238
600-700	39,428	30,176
700-800	51,918	49,704
800-900	37,615	95,991
900-1,000	62,437	14,655
>1,000	639,716	254,392

Source: London Stock Exchange, Hardman & Co

If we accept the assumption that the £30,000 is the commercial threshold then, on average, only Main Market listed stocks with market caps above £500m and AIM companies above £700m will be covered by anyone other than the house broker or a paid-for research house: this assumes that a non-house broker can capture all of the non-house broker trade.

What are institutions paying for??...

However, the outlook is even worse. Not only is the total volume of secondary commission about to collapse, but the identification of what it is paying for is going to get more difficult. Brokers can add up the execution commission generated per stock, but they will be paid for research in cheques with amounts that are not related to trading (that's one key aim of MiFID II, after all) - they will be banned from using trading commission to pay for research. How do they decide where one fat (or perhaps thin) cheque from an institution should be allocated by stock? It may be that an institution tells a broker that it will pay £x on the basis that they provide a certain degree of cover on a certain set of stocks, for example coverage of all FTSE 250 companies. But this is asking a lot of the customer. Generally, it will be educated guess-work by the broker.



### Wide distribution helps liquidity and MiFID II will negatively impact that as well

Distribution, Distribution, Distribution...

Commentators have made great play of the likely impact of MiFID II on the volume of research produced. Much less has been said about how the new regulation will impact distribution, yet this could have as serious an effect on capital markets. However good, or useful, a piece of investment research might be to investors or a company, its value is partly determined by how many investors can actually see it!

Today, broadly, every broker has exactly the same distribution and investor client list as every other broker. For sure broker A may have a stronger relationship with Fidelity than broker B, and B may be the more appreciated by Black Rock, but everyone talks to everyone and the research is universally distributed to institutions. That will change in January 2018.

After MiFID II comes into force, two factors will mean that there will be real differences between the institutional client coverage of brokers. First, the, cut in secondary commission – perhaps of up to 75% - will not be equally shared and, secondly, the new regulations mean that institutions will need a commercial arrangement with a broker before actually receiving their research.

If institutions cut their commission payments by 75% they are unlikely to squeeze every one of their existing brokers' payments by 75%: that would result in a bad service from everyone. It would be preferable to cut some completely and the rest by less than 75% so that you remain meaningful to a few. For example, we are hearing that many institutions are considering getting a waterfront service from only three bulge brackets compared with six today. Also, the fewer brokers you deal with the easier it will be to run the Research Payment Account (RPA) audit process, should the RPA route<sup>2</sup> be chosen. Thus, some brokers will be

completely cut off by some institutions.

Free-riding of research is not allowed...

Some brokers binned...

The paragraph above covers a simple commercial logic. But there is another compliance/regulatory reason why an institutional broker's distribution network will shrink. After January 2018 institutions will not be allowed to accept research from brokers for free, as it will be considered an 'inducement' to do something else, such as deal through them. They may be allowed a free short trial period to judge a broker, but after that, if they are not going to sign up a commercial arrangement with the broker, they will be committing an offence in accepting research for free (or even below cost price, however that might be calculated). The one exemption is where that research has already been paid for by the company, i.e. the house broker's research.

Under the RPA, an institutional fund manager agrees with its end clients how much to charge them for the research it needs, in addition to an annual management fee.



#### Non-institutional investors

Institutional brokers have always restricted the distribution of research to...institutions! First, they want to avoid the compliance issues of making recommendations to non-professional investors and, secondly, they want to monetise their research which means they only want to send it to institutions that will pay (or might pay). That generally means they will not send it to many private client brokers and wealth managers. Of course, they will not let it be seen by retail investors either, since they would not pay for it and doing so poses serious compliance issues. This contrasts with the distribution of a paid-for house, such as Hardman & Co, where the model can be 'distribution-max'.

Distribution-max – the Hardman way...

The upshot is that, without paid-for research, a substantial chunk of the investor audience is left in the dark. And yet the analysis of average bargain sizes from our in-house data sets shows that these other investors often set the share price for most days of the year! We highlighted this issue in our paper 'Why AIM Company Management Ignore Retail Investors at their Peril', published in September 2015. It used data from the Office for National Statistics (ONS) to show the declining influence of traditional investment institutions in the equity market and the critical importance of retail investors at the lower end of the market capitalisation spectrum. The ONS survey showed that retail investors accounted for 30% of all holdings in AIM shares and our analysis demonstrated that the average trade size in 82% of AIM companies was less than £10,000.

#### **Conclusion**

Economical with the truth on liquidity...

Brokers tend to shy away from telling company managements the truth about liquidity. In a sense, it did not matter before because companies did not pay for research. After January 2018, managements need to care much more about liquidity because it will determine whether any broker, other than the house broker, will bother to write about them. Even if a non-house broker writes a research report its impact may be small because it will have weaker distribution than today. Paid-for research houses do not have this constraint and address far wider audiences that an institutional broker. There is plenty of evidence that the more research there is, and the better it is distributed, the more liquidity there is in a stock; hence the lower the spread, the higher the multiple and the easier it is to raise new capital.

Tin hats time...

Metaphorically, there is a storm coming and many managements need to think about buying an umbrella.



#### Appendix - Methodology

The data that we have presented is compiled from the London Stock Exchange's monthly publication of trade data.

#### Baskets:

- Each basket (e.g. size band £100-200m in the 12 months to
   December 2016) is composed of stocks which were quoted on the
   last day of the time period. Thus, if a company was delisted a day
   before the period close it is excluded. The market cap size band to
   which a company is allocated is determined by its market cap on the
   last trading day of the time period.
- We have excluded investment trusts from the baskets as we are trying to assess the impact of MiFID II on trading companies.
   Whether REITs are trading companies is open to debate; we have, though, included them.
- 3. We have excluded companies which most investors would not regard as London stocks, such as Boeing; the London quote is very much a secondary one.
- 4. We have also excluded preference shares, warrants, rights etc.
- 5. The above criteria means that the baskets for each time period will probably have different constituents.

#### Secondary commission pool:

- 1. In order to compute the commission generated in each stock we multiply the annual value traded for each company by 10 basis points as an approximation for the commission rate charged.
- 2. We have assumed that every trade carries commission. In reality, this is not the case and the larger the market capitalisation of a company, the more likely it is that some trade will be done on a net basis, perhaps through a dark pool. There is evidence that as much as one-third of trade in FTSE 100 companies is conducted this way this may mean that our number might be an over-estimate; and
- 3. Commission rates will vary. Retail investors will likely pay more, whilst most institutional investors will pay substantially less.

  Institutions may pay a higher rate for small cap stocks than big cap.

Hardman & Co takes the raw monthly data from the London Stock Exchange for every quoted company, adjusts it where necessary and then aggregates it; in a few cases, there is a data point overlap which — where appropriate — has been highlighted. Our database covers every stock in the market for any period. This dataset can be used to consider companies on their own or to compare the data for one company with a peer group, such as companies of similar market capitalisations or in the same sector.



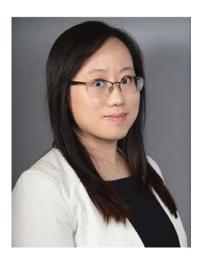
#### **Authors**



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.

Keith has over 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 and a member of the 5-man securities board at Evolution. Keith has also advised companies, large and small, on their relationships with the capital markets. Keith was part of the group of investors which acquired Hardman & Co in late 2012. He holds an MA in Philosophy, Politics & Economics from the University of Oxford.



Yingheng Chen is a Senior Financial Analyst at Hardman & Co.

She also works alongside Doug Hawkins at <u>Hardman Aqribusiness</u> which was founded in 2009 as a joint venture with Hardman & Co and provides capital market advisory services for businesses and investors in the agriculture supply chain. 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.



Christopher Magennis is a Business Development Associate Hardman & Co.

Whilst at the University of Edinburgh he was President of the Commercial Law Society, where he successfully brought Magic Circle, leading US firms and other international corporate law firms into association with the society for the first time, to deliver practical insights and to create a mutually beneficial relationship. He won the Society's inaugural 'Negotiation and Contract Drafting competition', with exceptional feedback from a Tier1 barrister. He also achieved a distinction for his LLM dissertation on regulation of leveraged buy outs, due in no small part to the guidance of his supervisor: Dr M Moore (University of Cambridge). Christopher joined the firm in May 2016. He holds an MA in Business Management from Heriot Watt University, LLB from University of Edinburgh and LLM in Corporate and Financial Law from University of Glasgow.



#### **Disclaimer**

Hardman & Co provides professional independent research services. Whilst every reasonable effort has been made to ensure that the information in the research is correct, this cannot be augranteed.

The research reflects the objective views of the analysts named on the front page. However, the companies or funds covered in this research may pay us a fee, commission or other remuneration in order for this research to be made available. A full list of companies or funds that have paid us for coverage within the past 12 months can be viewed at <a href="http://www.hardmanandco.com/">http://www.hardmanandco.com/</a>

Hardman & Co has a personal dealing policy which debars staff and consultants from dealing in shares, bonds or other related instruments of companies which pay Hardman for any services, including research. They may be allowed to hold such securities if they were owned prior to joining Hardman or if they were held before the company appointed Hardman. In such cases sales will only be allowed in limited circumstances, generally in the two weeks following publication of figures.

Hardman & Co does not buy or sell shares, either for its own account or for other parties and neither does it undertake investment business. We may provide investment banking services to corporate clients.

Hardman & Co does not make recommendations. Accordingly, we do not publish records of our past recommendations. Where a Fair Value price is given in a research note 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 but has no scheduled commitment and may cease to follow these securities/companies without notice.

Nothing in this report should be construed as an offer, or the solicitation of an offer, to buy or sell securities by us.

This information is not tailored to your individual situation and the investment(s) covered may not be suitable for you. You should not make any investment decision without consulting a fully qualified financial adviser.

This report may not be reproduced in whole or in part without prior permission from Hardman &Co.

Hardman Research Ltd, trading as Hardman & Co, is an appointed representative of Capital Markets Strategy Ltd and is authorised and regulated by the Financial Conduct Authority (FCA) under registration number 600843. Hardman Research Ltd is registered at Companies House with number 8256259. However, the information in this research report is not FCA regulated because it does not constitute investment advice (as defined in the Financial Services and Markets Act 2000) and is provided for general information only.

Hardman & Co Research Limited (trading as Hardman & Co) 35 New Broad Street London EC2M 1NH T +44 (0) 207 194 7622

Follow us on Twitter @HardmanandCo

(Disclaimer Version 2 – Effective from March 2017)



#### **Hardman Team**

<b>Management Team</b>			
+44 (0)20 7194 7622			
John Holmes	jh@hardmanandco.com	+44 (0)207 194 7629	Chairman
Keith Hiscock	kh@hardmanandco.com	+44 (0)207 194 7630	CEO
Marketing / Investo	or Engagement		
+44 (0)20 7194 7622			
Richard Angus	ra@hardmanandco.com	+44 (0)207 194 7635	
Max Davey	md@hardmanandco.com	+44 (0)207 194 7622	
Antony Gifford	ag@hardmanandco.com	+44 (0)207 194 7622	
Vilma Pabilionyte	vp@hardmanandco.com	+44 (0)207 194 7637	
Gavin Laidlaw	gl@hardmanandco.com	+44 (0)207 194 7627	
Ann Hall	ah@hardmanandco.com	+44 (0)207 194 7622	
Analysts			
+44 (0)20 7194 7622			
Agriculture		Bonds	
Doug Hawkins	dh@hardmanandco.com	Brian Moretta	bm@hardmanandco.com
Yingheng Chen	yc@hardmanandco.com	Mark Thomas	mt@hardmanandco.com
Thomas Wigglesworth	tcw@hardmanandco.com		
<b>Building &amp; Construction</b>		Consumer & Leisure	
Tony Williams	tw@hardmanandco.com	Mike Foster	mf@hardmanandco.com
Mike Foster	mf@hardmanandco.com	Steve Clapham	sc@hardmanandco.com
		Jason Streets	js@hardmanandco.com
Financials		Life Sciences	
Brian Moretta	bm@hardmanandco.com	Martin Hall	mh@hardmanandco.com
Mark Thomas	mt@hardmanandco.com	Gregoire Pave	gp@hardmanandco.com
		Dorothea Hill	dmh@hardmanandco.com
Media		Mining	
Derek Terrington	dt@hardmanandco.com	Paul Singer	if@hardmanandco.com
Oil & Gas		Property	
Angus McPhail	am@hardmanandco.com	Mike Foster	mf@hardmanandco.com
Services		Special Situations	
Mike Foster	mf@hardmanandco.com	Steve Clapham	sc@hardmanandco.com
		Paul Singer	ps@hardmanandco.com
Tax Enhanced Services		Utilities	
Brian Moretta	bm@hardmanandco.com	Nigel Hawkins	nh@hardmanandco.com
Chris Magennis	cm@hardmanandco.com		

#### Hardman & Co

35 New Broad Street London EC2M 1NH

Tel: +44(0)20 7194 7622

www.hardmanandco.com

