

ALTERNATIVE ALPHA

UNLOCKING HIDDEN VALUE IN THE EVERYDAY



PUBLICATION DATE
September 2017

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SPECIAL THANKS

We would like to thank our summer interns, Avinash Bharwaney (BBA, Global Business and Finance at The Hong Kong University of Science and Technology), Hemant Kumar (BBA, Accounting and Finance at The University of Hong Kong), and Alexander Swan (MSc, International Banking and Finance at The University of Leeds) for their help in the preparation of this report.

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EXECUTIVE SUMMARY

In recent years the investment management industry has witnessed a dramatic and sustained shift in investor preferences, with a flight of assets from active to passive funds. Much of this has been driven by widespread underperformance of active managers, particularly net-of-fees. In response, investors are voting with their feet, with USD 340 billion of net outflows from active US funds alone in 2016.

Active managers are consequently finding themselves in the midst of a perfect storm. Fund outflows, together with ongoing fee pressures, are weighing on revenues, while increased regulations – particularly the go-live of MiFID II in January 2018 – are driving up costs. In response, many active managers are introducing passive products (particularly exchange traded funds (ETFs)) and are undergoing a wave of M&A activity in an effort to capture economies of scale, deliver cost savings, and preserve margins. However, we see this race-to-the-bottom sitting at odds with their core value proposition and fundamental fiduciary duty: alpha-generation.

In a world where traditional financial information is ubiquitous and where investment analysis remains largely homogenous, we believe alternative data provides a critical avenue by which active managers can look to stay relevant. While still in its infancy, we see alternative data having profound implications for buy-side players that are able to effectively leverage its use, both from a revenue and cost perspective. In order to do this, a number of key factors must be considered, from identifying the right data to its practical incorporation in a fund manager's investment process.

Not all alternative data, however, has alpha-generating potential. As such, there will be a need for managers to evaluate both the data type and its source across a number of criteria, such as its uniqueness and quality, in order to identify the most appropriate data to use. Moreover, internal capabilities need to be evaluated with respect to resources needed to both procure and analyse the data, including the potential use of machine learning techniques, which has major implications for cost reduction and efficiency, especially in a post-MiFID II compliance-driven world. An effective strategy is needed.

Given ongoing revenue and cost headwinds, we see active managers who continue to operate under traditional business models stand to see their profit margins compressed from an industry average of 40% at present to 25% by 2022.

Through successfully leveraging alternative data, we believe profit margins for leading managers have the potential to reach 55%. For every USD 100 billion of assets under management (AuM), this translates to a profit uplift of USD 100 million. With such a compelling case around its adoption, we believe it is time for active managers to seek out alternative alpha.

SECTION 1

THE SHIFT FROM ACTIVE TO PASSIVE

UNDERPERFORMANCE OF ACTIVE MANAGERS

Passive asset management has gained significant popularity throughout the past decade and now represents a USD 6 trillion industry globally. This trend is expected to continue, with Moody's predicting that passive funds will constitute over 50% of assets under management (AuM) in the US in the next 4 to 7 years, up from 28.5% at present.¹

The clear shift in investor preference from active funds to passive funds has been underpinned by two fundamental drivers, being: (1) failure by active managers to beat their respective benchmark on a gross-of-fees basis; and (2) the higher management fees charged by active managers.

FAILURE TO BEAT BENCHMARK

According to Standard & Poor's (S&P), the majority of active managers failed to beat their respective benchmarks during the 10-year period ending December 2016 on a gross-of-fees basis.² For example, out of 17 investment categories within the US equity mutual fund space, Large-Cap Value Funds is the only category with over 50% of fund managers beating the benchmark, the S&P 500 Value index. The worst performing category in this space, Small-Cap Growth Funds, saw 92% of managers failing to beat the S&P SmallCap 600 index. In the US equity institutional accounts space, the majority of fund managers failed to beat their respective benchmarks across all 17 investment categories.

The fixed income mutual fund space arguably performed better, with five out of 13 categories having over 50% of fund managers beating their benchmark. However, in the worst performing category, Investment-Grade Long Funds, only 5.6% of fund managers beat their benchmark, the Barclays US Government/Credit Long index.

HIGH MANAGEMENT FEES

Active managers charge considerably higher management fees than their passive counterparts. For example, Fidelity charges 0.7% of AuM for a typical active stock fund, while the cost of Fidelity's 500 Index Fund is 0.05%.³ According to Morningstar, the asset-weighted average expense ratio of active funds in the US is 0.75% in 2016, compared to passive funds with 0.17%,⁴ a difference of 58 basis points (a multiple of 4.4x). The generally accepted rationale for this fee differential is that more time and effort are required to execute an active investment strategy.

The higher management fees charged by active managers have made their underperformance story even more pronounced when looked at on a net-of-fees basis. In the large-cap equity mutual fund space, for example, while 68% of managers underperformed gross-of-fees, this increases significantly to 85% net-of-fees. The worst performing category is Global High-Yield Funds, where 100% of asset managers underperformed their benchmark on a net-of-fee basis, the Barclays Global High Yield index (see Figure 1).

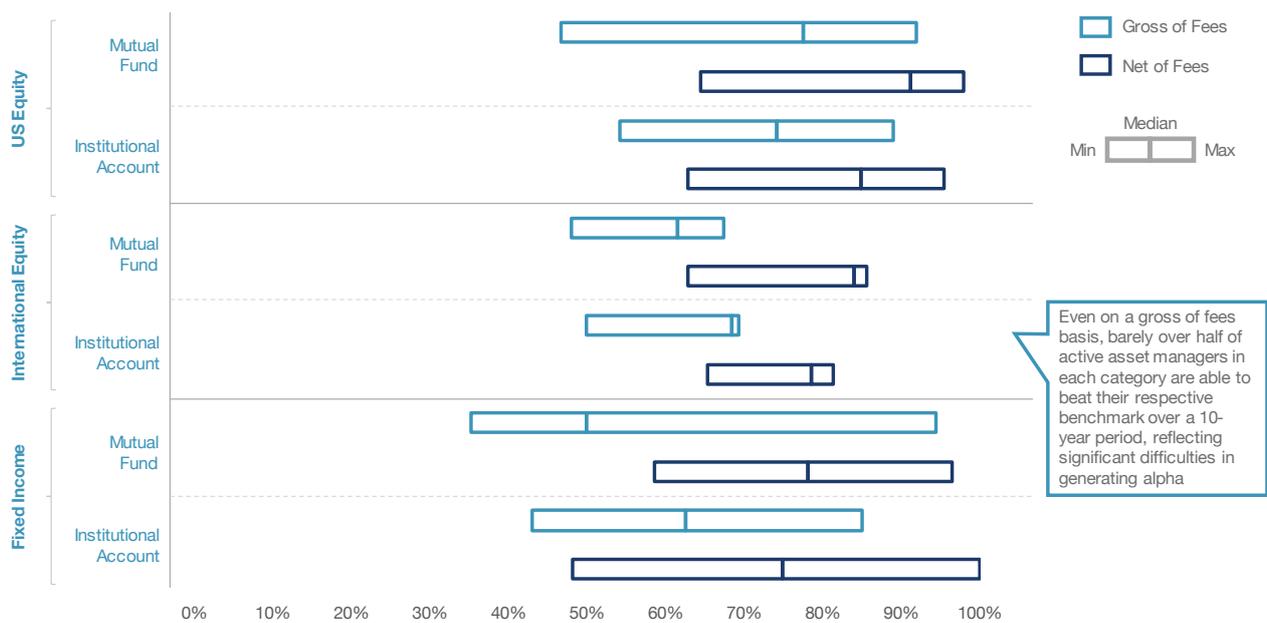
1 Moody's, 'Passive investing to overtake active in just four to seven years in US; global traction to pick up', 2 February 2017, available at https://www.moody's.com/research/Moodys-Passive-investing-to-overtake-active-in-just-four-to--PR_361541

2 S&P, SPIVA Institutional Scorecard: How Much Do Fees Affect the Active Versus Passive Debate, 8 August 2017

3 BloombergQuickTake, 'Active vs. Passive', 6 July 2017, available at <https://www.bloomberg.com/quicktake/active-vs-passive-investing>

4 Morningstar, US Fund Fee Study, 23 May 2017

FIGURE 1: % MANAGERS THAT UNDERPERFORMED BENCHMARK OVER 10 YEARS



Note: above data points are by type of investment strategy
 Source: S&P SPIVA data, Quinlan & Associates analysis

For the year ended 31 December 2016, less than 15% of US small-cap, 11% of US mid-cap, and approximately a third of US large-cap equities fund managers managed to beat their respective benchmark S&P indices.⁵ And just 15% of international equity managers outperformed the S&P International 700.

Longer-term performance is even more telling, with ~15% of US large-cap and international equities managers, and only 4% of US small- and mid-cap equity managers, outperforming their respective benchmark indices over a 10-year period. In

addition, less than half of the asset managers that beat their benchmark in any specific year would repeat that feat in the following year.⁶

The situation is not any better for European funds, with ~98% of Euro-denominated global and US equities funds failing to beat the S&P Global 1,200 and S&P 500 respectively in the 10-year period ended 31 December 2016.⁷ Even in emerging market equities, where active management is widely seen as better able to capture market inefficiencies, over 90% of active funds underperformed against their benchmark over the past 10 years.

5 S&P Dow Jones Indices, 'SPIVA® U.S. Scorecard', April 2017

6 S&P Dow Jones Indices, 'Fleeting Alpha: Evidence from the SPIVA® and Persistence Scorecards', February 2017

7 S&P Dow Jones Indices, 'SPIVA® Europe Scorecard', April 2017

ARGUMENTS FOR UNDERPERFORMANCE

Behavioural finance proponents, such as C Thomas Howard, CEO of AthenaInvest, argue that active asset managers are, in fact, superior stock pickers, and that underperformance reflects portfolio management decisions rather than a lack of skills.⁸ These hindrances, which are out of the control of fund managers due to incentive structures and investor preferences, include: (1) asset bloat; (2) closet index; and (3) over-diversification.

1. ASSET BLOAT

Asset bloat occurs when a fund grows too large that investments cannot be limited to best idea stocks. It becomes increasingly difficult to identify stocks that meet investment criteria and have enough liquidity as the fund grows. However, as asset managers are compensated based on AuM, they are incentivised to sacrifice performance for growth, leading to sub-optimal performance.

2. CLOSET INDEX

Some asset managers are closet indexers, who claim to be active and charge accordingly, but are simply matching indices. This is partially due to the pressure on asset managers to have “low tracking error” (i.e. to stay close to the benchmark) and to have little “style drift” (i.e. to stick with a certain investment style or direction). Some asset managers also benchmark track to avoid short-term underperformance. Howard claims that ‘more

than 70% of so-called active ETFs are, in actuality, closet indexers’, which means their raw performance matches the index. However, as active asset managers charge a higher management fee, they ultimately underperform when compared to their benchmark.

3. OVER-DIVERSIFICATION

There are investors who prefer a high level of diversification, as diversity is typically associated with low risk, and these investors pressure asset managers to include different stocks in their portfolios. Similar to asset bloat, this means asset managers are unable to limit investments to the best idea stocks, hindering performance. Howard argues that if asset managers are free to manage portfolios without hindrances, ‘the vast majority of fund managers would deliver superior performance to investors.’

SHIFT FROM ACTIVE TO PASSIVE

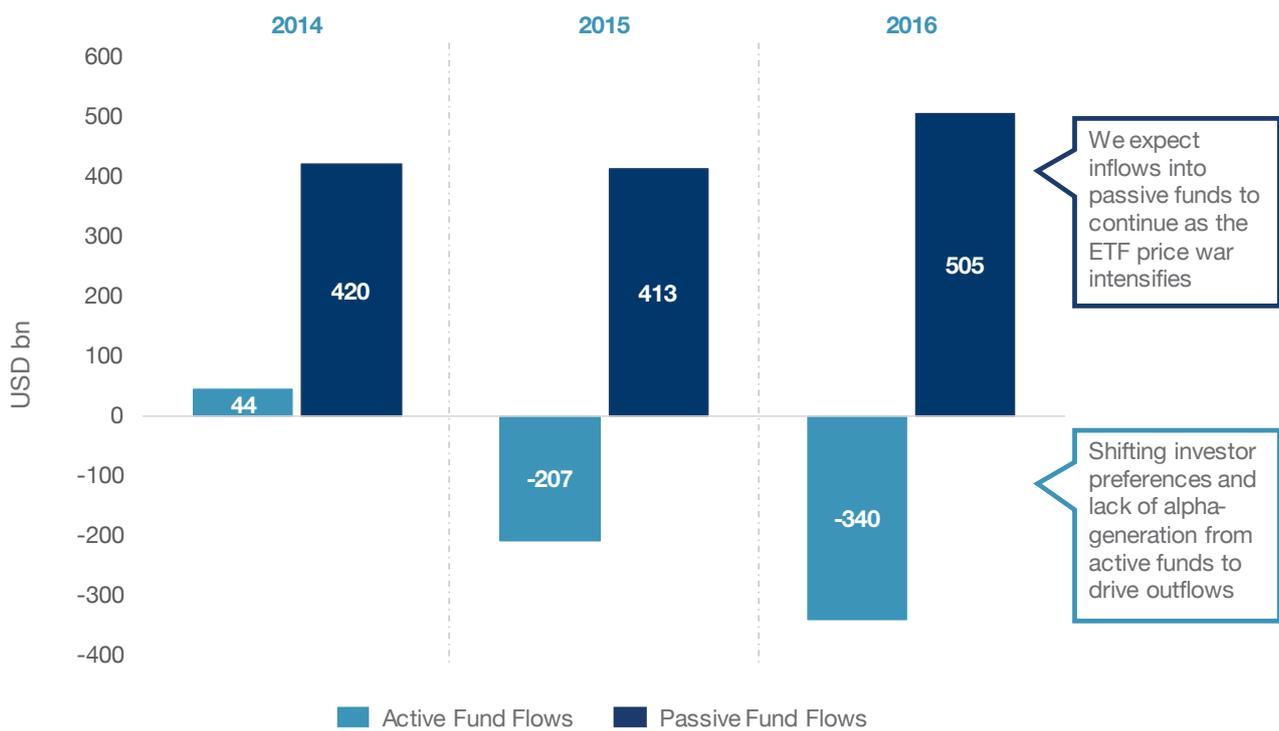
Notwithstanding the arguments defending the underperformance of active asset managers, investors, whose primary concern is investment returns, are simply voting with their feet.

In more recent years, there has been a dramatic and continued shift in investor preferences from active to passive funds. This is clearly demonstrated by the net AUM outflows from active US funds (-USD 503 billion) and inflows into passive US funds (+USD 1,338 billion) from 2014-16 (see Figure 2). During the first seven months of 2017, ETF’s saw USD 391 billion of inflows, already surpassing the USD 390 billion annual inflow in 2016.⁹

8 Forbes, ‘Why most mutual funds underperform and how to find ones that don’t’, 6 February 2016, available at <https://www.forbes.com/sites/trangho/2016/02/06/why-most-mutual-funds-underperform-and-how-to-find-ones-that-dont/#3a9297cd7491>

9 CNBC, ‘Passive investing just blew past 2016’s record level’, 14 August 2017, available at <https://www.cnbc.com/2017/08/14/passive-investingin-etfs-just-blew-past-2016-record-level.html>

FIGURE 2: ACTIVE VS. PASSIVE FUND FLOWS (US), 2014-16



Source: Morningstar data, Quinlan & Associates analysis

Recognising these trends, a number of leading active asset managers have been introducing passive products into their product mix¹⁰ – examples include Legg Mason launching a series of next-generation ETFs, and quant fund AQR Capital Management announcing it was looking to offer ETFs as part of its product suite.¹¹

At the same time, a price war also appears to be unfolding in the passive management space. Leading asset managers, including Vanguard, Blackrock, and Fidelity, have cut fees for many of their passive products, especially their exchange-traded funds (ETFs).

¹⁰ Financial Times, 'Active asset managers knocked by shift to passive strategies', 11 April 2016, available at <https://www.ft.com/content/2e975946-fdbf-11e5-b5f5-070dca6d0a0d>

¹¹ CNBC, 'Top Wall Street quant could be entering the ETF game', 24 August 2017, available at <https://www.cnbc.com/2017/08/23/top-wall-street-quant-could-be-entering-the-etf-game.html>

Recent examples of fee compression include:

1. Vanguard FTSE Europe ETF: fees cut from 12 bps to 10 bps in February 2017,¹²
2. Blackrock iShares MBS ETF: fees cut from 27 bps to 9 bps in July 2017,¹³ and
3. HSBC Euro Stoxx 50 ETF: fees cut from 15 bps to 5 bps in March 2016.¹⁴

The ongoing price war within the passive management space and the widespread underperformance of active funds are continuing to make passive products even more attractive for investors.

Suffering from poor performances and continuous outflows, active asset managers are being pushed out of business. In the hedge fund space, in particular, there were 1,057 liquidations in 2016, the highest level of annual liquidations since the start of the global financial crisis in 2008.¹⁵ Some of the more notable closures since the beginning of 2016 include Nevsky Capital, Orange Capital, Perry Capital, and Eton Park Capital (see Figure 3).

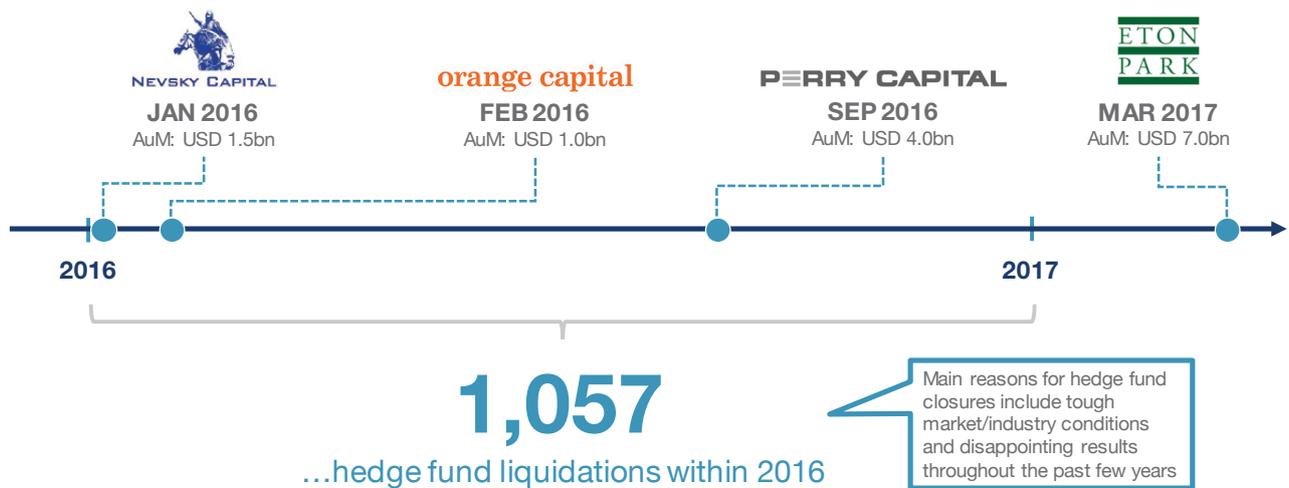
12 Bloomberg, 'Vanguard Cuts ETF Fees as Race-to-Zero With BlackRock Heads Up', 25 February 2017, available at <https://www.bloomberg.com/news/articles/2017-02-24/vanguard-cuts-etf-fees-as-race-to-zero-with-blackrock-heads-up>

13 CNBC, 'BlackRock cuts fees, builds bond indexes in bid 'to be ubiquitous'', 13 July 2017, available at <https://www.cnbc.com/2017/07/13/reuters-america-blackrock-cuts-fees-builds-bond-indexes-in-bid-to-be-ubiquitous.html>

14 The Telegraph, 'Tracker price war: HSBC cuts fund charges to as low as 0.05pc', 17 March 2016, available at <http://www.telegraph.co.uk/investing/funds/tracker-price-war-hsbc-cuts-fund-charges-to-as-low-as-005pc/>

15 Bloomberg, 'More Hedge Funds Shut Last Year Than Any Time Since the 2008 Crisis', 17 March 2017, available at <https://www.bloomberg.com/news/articles/2017-03-17/more-hedge-funds-shut-last-year-than-any-time-since-2008-crisis>

FIGURE 3: NOTABLE HEDGE FUND LIQUIDATIONS



Source: Press releases, Quinlan & Associates analysis

SUFFERING FROM POOR PERFORMANCES
AND CONTINUOUS OUTFLOWS, ACTIVE ASSET
MANAGERS ARE BEING PUSHED OUT OF BUSINESS

SECTION 2

DIFFICULTIES IN ALPHA-GENERATION

As highlighted in Section 1, active managers are having difficulties in fulfilling their core value proposition: alpha-generation. This failure to satisfy investors, along with a number of external factors, is weighing on the profits of active managers.

There are multiple revenue and cost-related factors affecting the profitability of active asset managers. Revenue-limiting factors are those that impact top-

line revenues of asset managers, which are primarily linked to AuM. Cost-increasing factors are those that impact the cost structure of managers, of which regulation, particularly MiFID II, forms a key part.

Of these, we have identified three key factors that limit the ability of asset managers to generate alpha (see Figure 4).

FIGURE 4: DIFFICULTIES FACING ACTIVE ASSET MANAGERS

| | FACTOR | DESCRIPTION |
|--------------------------|-------------------------|--|
| REVENUE-LIMITING FACTORS | 1 MARKET EFFICIENCY | • Markets are increasingly becoming more efficient, limiting the opportunity for asset managers to identify mispriced assets |
| | 2 IDENTICAL METHODOLOGY | • Asset managers have access to the same information and conduct highly similar analysis, resulting in no unique edge against peers |
| | 3 SUBSTITUTIONS | • Rise of passive funds (i.e. low cost alternatives), which leads to price transparency demands, generating downward fee pressure |
| COST-INCREASING FACTORS | 4 PRODUCT COMPLEXITY | • Development and management of new products or investment strategies require investments on research and analysis |
| | 5 DISTRIBUTION | • Clients are demanding better distribution (i.e. transparent, accurate, and open communication), increasing client support costs • Digitalisation is putting pressure on asset managers to invest in technology to better reach clients, providing a high level of access via different channels |
| | 6 REGULATIONS | • Stringent regulatory regime requires high level of disclosure and customer due diligence, increasing compliance costs, particularly with the onset of MiFID II in January 2018 • Asset managers need a level of local presence to promote and sell products in certain regions |
| | 7 TALENT | • Limitation on the amount of research and analysis a research analyst can conduct, as the process is highly manual, which means products with high coverage lead to higher labour costs |

Factors limiting alpha-generation

Source: Quinlan & Associates analysis

REVENUE-LIMITING FACTORS

1. MARKET EFFICIENCY

Market inefficiencies, especially in developed markets, are fast disappearing. Technological advancements are enhancing the availability and speed of distribution of financial data, and investors are becoming more sophisticated. Asset prices change rapidly in response to quantifiable data, limiting the opportunities to identify mispriced assets and hence restricting alpha-generation.

As described in Section 1, the majority of active managers consistently fail to beat their benchmark. With low alpha-generation, it is becoming increasingly difficult for active asset managers to charge high fees, limiting their revenues.

2. IDENTICAL METHODOLOGY

Market data and financial information is virtually freely available, and analysis or evaluation techniques are well-known. Any interested party, even sophisticated retail investors, are able to conduct similar analysis based on the same information. Without a differentiated methodology, asset managers spend considerable time and effort on producing huge amounts of research and analysis which provide little alpha-generating insight. And with limited alpha-generation, many funds risk client withdrawals.

3. SUBSTITUTIONS

The rise of better performing and lower-cost products – including passive fund products and robo-advisors that offer investment recommendations based on an investor's aims and risk appetite – is

driving an ongoing shift in consumer preference towards passive fund products. In addition, there are structural factors luring investors away from active funds. Young investors, or millennials, for example, prefer online solutions¹⁶ and have 'very little faith in experts', preferring investment decisions to be made by software and algorithms, including robo-advisors.¹⁷ Together with greater demands for price transparency from both clients and regulators, this is exerting pressure on fees for active managers.

COST-LIMITING FACTORS

4. PRODUCT COMPLEXITY

To remain competitive within the industry, asset managers need to constantly look for new investment ideas or strategies, and develop new products. This process requires significant research and analysis, along with the subsequent management of an expanding product mix, leading to an increase in costs.

5. DISTRIBUTION

Digitalisation and the rise of fintech solutions have led to higher expectations for distribution, both in terms of its sophistication and respective channel(s). Clients are increasingly demanding more sophisticated distribution solutions (i.e. more transparent, open, accurate, and frequent communication, through multiple channels), especially online channels, which increases client support costs and IT expenses.

16 Financial Times, 'Fintech lures millennial investors away from asset managers', 20 January 2017, available at <https://www.ft.com/content/0bb9f8ce-d330-11e6-b06b-680c49b4b4c0>

17 Financial Review, 'Millennials to drive huge passive funds management switch, threatening jobs', 17 May 2017, available at <http://www.afr.com/personal-finance/managed-funds/millennials-to-drive-huge-passive-funds-management-switch-threatening-jobs-20170516-gw6eqr>

6. REGULATIONS

Regulators are increasingly demanding high levels of disclosure and due diligence from the buy-side. Sizeable litigation fees, as well as regulatory fines and penalties, are leading to heavy investments in compliance and control functions. For example, under MiFID II, European asset managers will face a number of regulatory headwinds, with a major issue being heightened compliance requirements around the consumption of external research, including justifying research spend. Ultimately, this means that asset managers will need to allocate research budgets more efficiently.

Other MiFID II compliance issues include more stringent reporting obligations, increased pre- and post-trade transparency, and better controls to manage potential conflicts of interest between employees and clients, all of which are set to drive up compliance cost. In addition, some regions require asset managers to have a certain level of onshore presence (e.g. having an office or having a certain number of local employees) to sell their products, increasing operational overheads. As such, the need for improved cost management is of paramount importance.

7. TALENT

Investment research and analysis is quite often a highly manual process, and there is a limitation as to how much a single research analyst can do. This consequently restricts the amount of sophisticated analysis that can be produced, impairing alpha-generation. To better analyse suitable investment opportunities, asset managers need to hire specialised talent, leading to higher labour costs.

A RACE TO THE BOTTOM

With fund management fees on the decline and costs pressures continuing to rise, managers have been reducing their fees in an effort to attract assets. According to investment consultancy Bfinance, global equity managers charged an average of 57bps from January 2015 to March 2017, down from an average of 62bps during the period between January 2010 and December 2014, representing an 8% decline.¹⁸

Moreover, we are witnessing a growing trend of consolidation within the industry as asset managers look to maximise economies of scale by capturing synergies and removing duplicative costs. Notable examples of cost-driven M&A activity in 2017 include the mergers of Janus Capital and Henderson, Standard Life and Aberdeen Asset Management, Prudential UK & Europe and M&G, and the acquisition of Pioneer Investments by Amundi. The head of asset management at Fidelity, Charles Morrison, is expecting 'a wave of consolidation' within the industry, with 'fewer and larger managers' in five years.¹⁹

18 Bfinance, 'Investment Management Fees: New Savings, New Challenges', May 2017

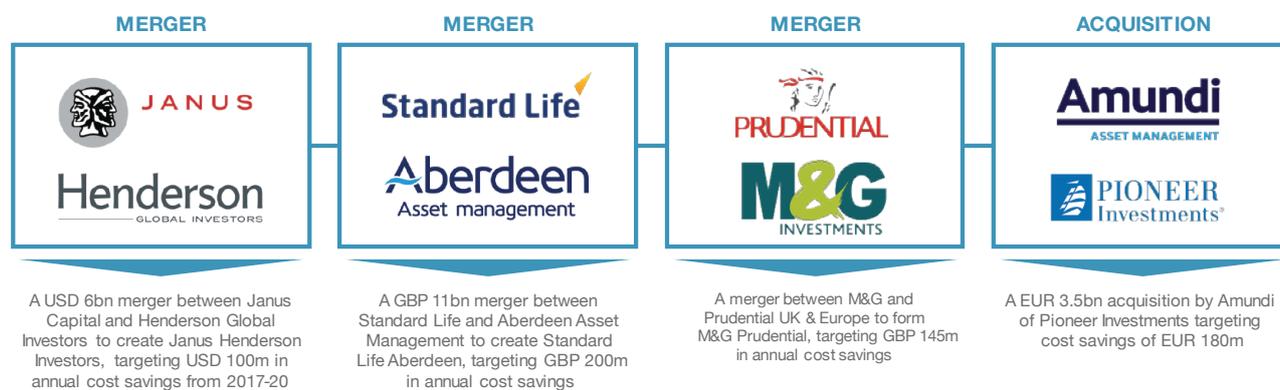
19 Financial Times, 'Fidelity predicts wave of consolidation among asset managers', 19 April 2017, available at <https://www.ft.com/content/5dac3976-249d-11e7-8691-d5f7e0cd0a16>

In addition to consolidations (see Figure 5), we believe asset managers can reduce research costs through automation – for example, the use of machine learning techniques tied to alternative data to replace parts of the current research process, which are highly manual in nature. However, while we understand the current strategic rationale to cut costs, especially in light of MiFID II, we believe this “race to the bottom” sits at odds with what the active asset management industry should be focusing

on: alpha-maximisation. Instead of cutting costs and fees to better match the investment returns of passive funds, active managers should look to double-down their efforts on their core business proposition.

To achieve this, we feel a different approach is needed. It is here where we see a role for the use of alternative data.

FIGURE 5: ASSET MANAGEMENT INDUSTRY CONSOLIDATION



Source: Press releases, Quinlan & Associates analysis

SECTION 3

ALTERNATIVE DATA

Alternative data is, put simply, any information that is non-market data. As such, any useable information or data that is not from a financial statement or report can be classified as alternative data.

Numerous industries outside of asset management have previously explored the idea of using alternative data to aid analysis, with an example being credit scoring. In some low-income nations, alternative data – such as phone bills, rental payments, and transaction data – is used to score individuals without a credit history, allowing millions of individuals access to a more modern credit ratings system.

Due to the difficulties in alpha-generation outlined in Section 2, some asset managers have gradually been introducing alternative data into their investment process. For example, in 2015, RS Metrics analysed the satellite images of the carparks of JCPenny, a US department store chain, and discovered traffic into JCPenny's stores rose in April and May. This information was then passed onto RS Metric's clients, primarily hedge funds, some of whom capitalised on this opportunity, as JCPenny's share price increased by over 10% after the publication of their Q2 results.

Another example is hedge funds obtaining informing related to Under Armour, including number of job listings on the website, average price of clothes listed on the website, and internal rating of the CEO by employees on Glassdoor, enabling them to foresee the undesirable financial result in Q2 2017. On the other hand, investors without this extra information were unpleasantly surprised by the announcement, leading to a 9% decrease in Under Armour's share price on the day of announcement.²⁰ Hedge funds could have shorted shares or adjusted their portfolios accordingly to capitalise on this price drop.

Other than these, examples of alternative data include social media posts, weather history and forecast, and language analysis of public statements from banks or companies.

WHY USE ALTERNATIVE DATA?

Based on the efficient market hypothesis, the price of assets fully reflects all available information, and therefore information asymmetry is extremely beneficial for active managers. Possessing exclusive and extra data means a fund manager can better analyse the value of an asset, leading to a better evaluation of its price.

Using alternative data requires certain technologies or capabilities to analyse and use the data, which play a part in creating information asymmetry. Large fund managers who pay for, or internally develop, these capabilities gain additional insight, which retail investors and smaller fund managers have little or no access to, making it easier to identify mispriced assets (see Figure 6).

²⁰ Financial Times, 'Hedge funds see a gold rush in data mining', 29 August 2017, available at <https://www.ft.com/content/d86ad460-8802-11e7-bf50-e1c239b45787>

FIGURE 6: USE OF ALTERNATIVE DATA



Source: Quinlan & Associates analysis

SOURCES OF ALTERNATIVE DATA

Alternative data can be categorised by its source, whether it is generated by individuals, corporates, or governments. Some data can be generated directly – for example, individuals create and post social media posts for the primary purpose of sharing

content, while governments may collect and report on population or environmental data. On the other hand, some data is generated as a by-product – for example, logistics reports created as part of a corporate’s shipments of goods (see Figure 7).

FIGURE 7: EXAMPLES OF ALTERNATIVE DATA

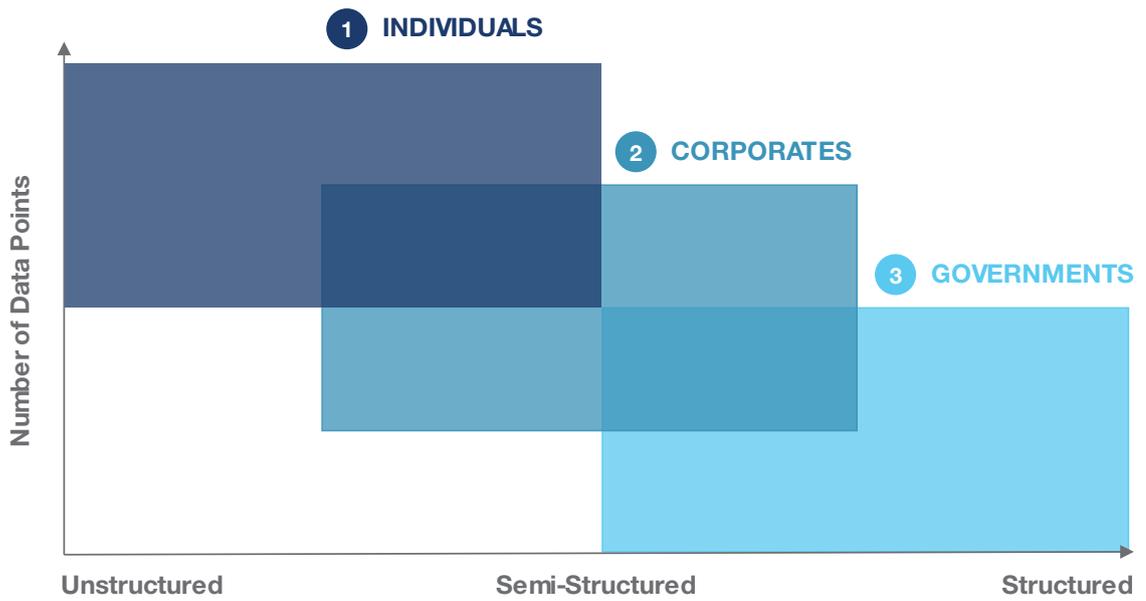
| | EXAMPLE | DESCRIPTION | EXAMPLE | DESCRIPTION |
|--------------------|---|--|--|--|
| INDIVIDUALS | Social Media Posts  | <ul style="list-style-type: none"> Generated when individuals post on social media, such as Facebook and Twitter Indication of public sentiment towards economy or certain companies | Geolocation Data  | <ul style="list-style-type: none"> Generated when individuals use geolocation services Indication of traffic to certain areas or stores, indicating consumer preferences |
| CORPORATES | Transaction History  | <ul style="list-style-type: none"> Generated when transactions are carried out, can be obtained via credit card history or receipts Indication of product or company performance | Logistics Reports  | <ul style="list-style-type: none"> Generated via shipments and deliveries Indication of state of economy and company performance |
| GOVERNMENTS | Satellite Images  | <ul style="list-style-type: none"> Generated by government satellites Indication of state of economy and potentially consumer preferences | Weather Reports  | <ul style="list-style-type: none"> Generated by weather departments and observatories Indication of potential performance for certain commodities and industries |

Source: Quinlan & Associates research

Individuals generate huge amounts of data, with frequent updates, but of different formats and standards, leading to a massive set of disparate data. During operations, corporates generate data which is semi-structured, in the sense that each corporate has its own standardised data,

but this standard is not applicable across multiple companies. In addition, the volume of data produced by corporates can fluctuate significantly based on different industries or operations. Governments produce aggregated data in a structured way, making the data a lot easier to digest (see Figure 8).

FIGURE 8: SOURCES OF ALTERNATIVE DATA



| | 1 INDIVIDUALS | 2 CORPORATES | 3 GOVERNMENTS |
|-------------------|--|--|---|
| Generation | <ul style="list-style-type: none"> • Daily life | <ul style="list-style-type: none"> • Business operations | <ul style="list-style-type: none"> • Government operations |
| Format | <ul style="list-style-type: none"> • No standardised format | <ul style="list-style-type: none"> • Standardised within entity | <ul style="list-style-type: none"> • Standardised format |
| Ownership | <ul style="list-style-type: none"> • Available to the public | <ul style="list-style-type: none"> • Owned by business | <ul style="list-style-type: none"> • Available to the public |
| Examples | <ul style="list-style-type: none"> • Social media posts • Geolocation data | <ul style="list-style-type: none"> • Transaction history • Logistics reports | <ul style="list-style-type: none"> • Satellite images • Weather reports |
| | <p>Need capabilities to collect and process data efficiently</p> | <p>Need to negotiate exclusive deals for edge over peers</p> | <p>Difficult to gain edge over peers as little costs or capabilities required</p> |

Source: Quinlan & Associates analysis

In addition, data can be categorised as directly-generated data or exhaust data. Directly-generated data refers to data purposefully created by the user, typically during everyday life or business operations. Exhaust data is a by-product, usually resulting from digital activities. Taking online-shopping as an example, the directly-generated data includes the item, the price, and the date of purchase, while exhaust data would include individual preferences, frequency of purchase, and route of delivery. Understanding that exhaust data is extremely useful in analysing market trends, companies such as Twitter have built new revenue streams from its sale.

We are also finding that there is an emergence of alternative data firms (alt-data firms), which collect and analyse specific data, and sell the analysis to asset managers. Examples of such firms include RS Metrics and Prattle, which we discuss later (see Section 4).

HOW TO USE ALTERNATIVE DATA

As with any other introduction of data or information into the investment process, there are four steps that need to be considered for companies looking to use alternative data:

1. Identification (of suitable data),
2. Procurement,
3. Analysis, and
4. Incorporation.

Where an investment manager chooses to outsource the procurement and/or analysis to an alt-data firm, the above process is truncated into three steps.

1. IDENTIFICATION

The first step is to identify the most relevant type of data, and choose the right data source to use in the investment process. Typical criteria when considering alternative datasets are listed in the table below (see Figure 9). Alpha-generation criteria relate to how well a particular dataset can help with creating insight and providing an edge over those without access to the data, while operational criteria look at where and how the data should be obtained and analysed.

FIGURE 9: CRITERIA FOR ANALYSING ALTERNATIVE DATASETS

| | CRITERIA | DESCRIPTION | CONSIDERATIONS |
|------------------------------|------------------|--|--|
| ALPHA-GENERATING CRITERIA | 1 RELEVANCE | • Relevance to target industry or asset | • More relevant data has a higher potential to contain alpha-generating insights |
| | 2 BREADTH | • Number of industries or assets the data is relevant to | • Data that covers more areas tends to be less directly relevant, hence has lower alpha-value |
| | 3 UNIQUENESS | • Whether insight is unique to the data or can be obtained elsewhere | • Multiple datasets may provide overlapping or similar insight, and it will be ineffective to obtain them all |
| | 4 SCARCITY | • Barriers to access data | • Price is controlled by data source or firm, so is an uncontrollable barrier; talent and technological development can act as controllable barriers |
| | 5 HISTORY | • Length of history of data | • Data with longer history provides more data points and support for testing trends and predictions |
| | 6 FREQUENCY | • Frequency of data updates | • Frequent updating is typically more desirable, but a balance needs to be struck due to the large volume of data generated |
| | 7 DURABILITY | • The length of time the data remains relevant for | • Longer data durability generally gives asset managers more time to act upon the insight generated |
| OPERATIONAL CRITERIA | 8 QUALITY | • Accuracy and reliability | • Transparent collection and processing methodology needed to ensure that data is not biased and that errors are removed |
| | 9 DELIVERY | • The form and structure of the data, and the degree to which it is tailored | • The way data is presented and delivered, and additional support (e.g. customisation) have significant effects on the analysis of the data |
| | 10 DIGESTIBILITY | • Ability of internal talents and technology to analyse data | • Asset managers without internal capabilities need to develop such capabilities or outsource analyses to third parties |
| | 11 COST | • Cost to obtain and analyse the data | • The main cost of unstructured data lies within analysis, while the main cost of structured data lies within procurement |

Source: Quinlan & Associates analysis

ALPHA-GENERATING CRITERIA

1. RELEVANCE

Relevance is difficult to quantify, and asset managers need to evaluate whether the data directly correlates to their target assets, what insight the data can potentially provide, and how to extract alpha before acquiring the data. For example, online reviews regarding a certain company are directly related to the firm. However, reviews posted on less popular forums have very little impact, and hence create little insight regarding consumer preferences and future performance. By contrast, reviews posted on popular social media sites, such as Twitter and Facebook, have higher traction and hence a greater impact on the performance of the firm, therefore providing more insight to asset managers.

2. BREADTH

Some data is relevant to multiple industries or assets. However, data with higher coverage tends to have lower relevance to the assets it covers. For example, satellite images of a carpark at a shopping outlet provide an indication of overall customer traffic. However, these images do not clearly show which stores benefit the most from increased traffic, creating challenges around alpha-value. Data with wide coverage tends to be a good indication of the industry or the economy, while data with narrow coverage contains more alpha-value for a specific asset.

3. UNIQUENESS

Multiple sources of data may provide overlapping information. While this increases reliability, it is cost-inefficient. As previously mentioned, asset managers should consider what insight the data can generate, and subsequently determine whether this insight can be extracted from already-available data or other data sources. For example, satellite images of a port provide plenty of information on cargo shipments, and an asset manager with such data should carefully consider purchases of information such as shipment or logistics reports, as the additional information provided is likely to be redundant.

4. SCARCITY

To gain an edge over peers, the data or insight gathered needs to be exclusive. For data that is purchased from corporates or alt-data firms, an inherent barrier is price. To further enhance competitive barriers, exclusive deals can be negotiated. These barriers, however, are not controlled by asset managers. Actions asset managers can take to limit access to the alpha-generating insight include acquiring the alt-data firms and developing internal talent or proprietary technologies to collect and analyse data in a cheaper way.

One problem with scarcity, however, is the lack of control. For example, satellite images of a port and shipment reports both provide information on cargo shipments, and securing exclusive access to shipment reports does not provide an edge over other asset managers if they obtain the satellite images, which provide similar insights. Another critical problem with scarcity is that once the usage of one type of data has proven successful, asset managers – and maybe even some sophisticated retail investors – will flock towards the data, leading to widespread usage and less unique alpha potential. An easy way to avoid this complication is to keep the usage of any alternative data as a trade secret.

5. HISTORY

Similar to any statistics, data with a longer history provides more data points for modelling or predictions for future trends. Given the nature of technological advancements, some data types have only been in existence for a short period of time, and this criterion is an area where a significant number of alternative data types are lacking. For example, social media posts, geolocation data, and optical data (drone and satellite) are relatively new, leading to these alternative data types having a short history. On the other hand, data such as corporate communications and logistics reports have a much longer history, given that these data types have existed for a long time and are well-recorded.

However, asset managers need to determine whether the economic environment and/or industry circumstances are similar enough to the current situation and future outlook, in order to evaluate whether historical data is a good indicator of the future performance of the asset. In addition, there are also fewer data points in the past than there are now, and the sophistication and accuracy of past data may not be up to standard. As such, historical data needs to be extensively judged before it is procured.

6. FREQUENCY

With the increased adoption of technology across multiple industries, including the promotion of the Internet-of-Things, data is constantly being created and updated, especially data that is generated by individuals. The ability to analyse data as it is being created is vital as it provides the most updated information for asset evaluations to base their investment decisions on. However, a balance needs to be struck, as the continuous storing and updating of data and information require considerable talent and technological resources, and may not be justified by the alpha-value generated. Asset managers with short-term strategies may prefer more frequent updates compared to managers with longer-term strategies.

7. DURABILITY

The longer the data remains relevant, the longer an asset manager has to act upon the insight. On the other hand, longer-lasting data may not be as relevant to the asset as shorter-lasting, but more frequently updated data. For example, durable data can help analyse the value of an asset further into the future, but this longer period of time leads to higher uncertainty, which potentially means less relevance for alpha-generation. As such, while durable data helps asset managers identify mispriced assets earlier, this is done with a higher degree of uncertainty, and should therefore be used with caution (or in conjunction with other analyses).

OPERATIONAL CRITERIA

8. QUALITY

Quality refers primarily to the reliability and accuracy of the data, including both raw data and processed data/analyses from alt-data firms. Data may contain bias, especially when generated by individuals, and a large enough population should be sampled to ensure the data is an acceptable representation for the entire population. In addition, there are anomalies within large data sets which may be treated as errors. These outliers need to be appropriately accounted for. Other elements that contribute to the quality of data include the speed of updates, completeness, and consistency. Therefore, asset managers should acquire data from sources with robust and transparent collection and processing methodologies, ensuring any subsequent analysis is based on a sound data foundation.

9. DELIVERY

Delivery refers to how the data is received by an asset manager. Data comes in different formats and structures, and analysis can be delivered in various forms and presentations. In addition, bespoke data firms can collect more specific data, conduct customised analysis, and present this in a tailored manner for asset managers with larger budgets. The main consideration for delivery is the amount of time and resources required to clean up and process the data upon its receipt.

10. DIGESTIBILITY

Digestibility of data looks at the capabilities needed to analyse the data, including internal talent and technological know-how. Large volumes of raw data are generally much harder to digest, while reports synthesised by data firms may be considerably easier to understand. Large asset managers with the resources to develop or acquire such capabilities may find it more efficient to carry out the analysis in-house, allowing for full customisation. This criterion is highly inter-related to the delivery criterion, as data that is well-delivered tends to be more digestible.

11. COST

The cost of data includes the cost of its procurement and subsequent analysis. As highlighted earlier, data generated by individuals is freely available to all, but the large amount of data available requires technological capabilities for efficient collection and analysis. On the other hand, data generated by corporations needs to be purchased but tends to be easier to process. This criterion is also related to the delivery and digestibility criteria, where well-delivered or easily-digestible data from data firms tends to cost more than less sophisticated information. Asset managers need to assess their own resources and capabilities to determine an acceptable price for the target data.

THE FIRST STEP IS TO IDENTIFY THE MOST RELEVANT TYPE OF DATA, AND CHOOSE THE RIGHT DATA SOURCE TO USE IN THE INVESTMENT PROCESS

2. PROCUREMENT

As previously mentioned, asset managers can choose to obtain the data as a standalone product or purchase that data with accompanying analysis. As with all financial data, there are three typical approaches surrounding its collection and analysis (see Figure 10).

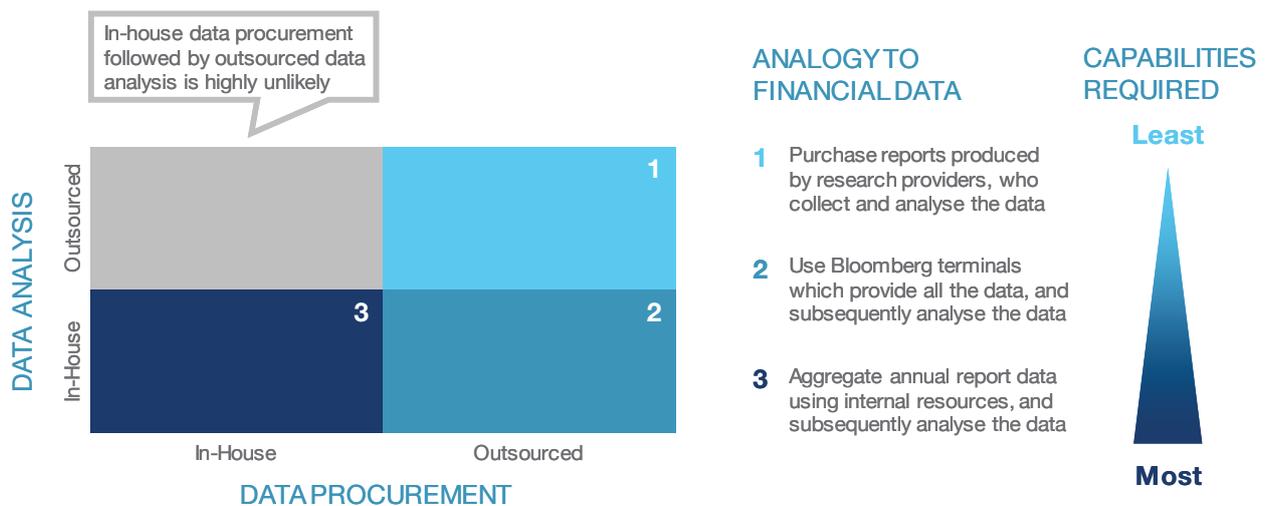
Asset managers with limited human resources and/or technological capabilities are most likely to outsource both data collection and analysis to alt-data firms. On the other hand, large asset managers with available resources are likely to carry out the processes in-house, as tailored analyses on specifically collected data is likely to generate maximum alpha-value.

1. OUTSOURCING PROCUREMENT AND ANALYSIS

Similar to outsourcing any operations, key benefits include minimal-to-no investment or commitment, with the trade-off being the lack of control. This approach requires the least capabilities, but the analysis obtained is likely to have the least alpha-value.

As asset managers have little-to-no control over the quality and reliability of the data collected and the analyses provided, they will need to choose well-established data firms, which are generally costlier. Analyses from data firms may also lack customisation and desired levels of sophistication, providing very little additional insight. In addition, the alpha-value of alternative data lies within having extra information that others have no access to. Outsourcing analysis would require the need for non-disclosure arrangements (NDAs) and/or exclusive deals, which may increase the price tag considerably.

FIGURE 10: TYPICAL APPROACHES FOR DATA USAGE



Source: Quinlan & Associates analysis

2. OUTSOURCING PROCUREMENT BUT IN-HOUSE ANALYSIS

This approach has the potential to provide more alpha-value, given that insight is not provided by the data, but by the way the data is analysed. It also allows tailored analysis and provides asset managers with unique insights (and hence a competitive edge) over peers.

The main considerations with this approach include the requirement for internal talent and technological capabilities, and the need to select a suitable data source for each part of analysis. Another consideration is that the alpha-value will decline if competitors purchase the same data and carry out more sophisticated analysis with it.

3. IN-HOUSE PROCUREMENT AND ANALYSIS

The in-house procurement and analysis approach provides the greatest degree of flexibility and tailoring for data and analysis. Through conducting these processes in-house, asset managers can collect specified data directly related to their target assets and carry out highly-tailored analysis, providing more value than the previous two approaches. In addition, a completely in-house approach means both the data and analysis are exclusive to the manager. Insights generated are therefore harder for a competitor to replicate, leading to the preservation of alpha-value.

Investment in talent and technology is the major hurdle to this approach, and only asset managers with significant financial resources and a strong commitment to building their alternative data capabilities should consider in-housing both procurement and analysis.

ASSET MANAGERS CAN CHOOSE TO OBTAIN THE DATA AS A STANDALONE PRODUCT OR PURCHASE THAT DATA WITH ACCOMPANYING ANALYSIS

3. ANALYSIS

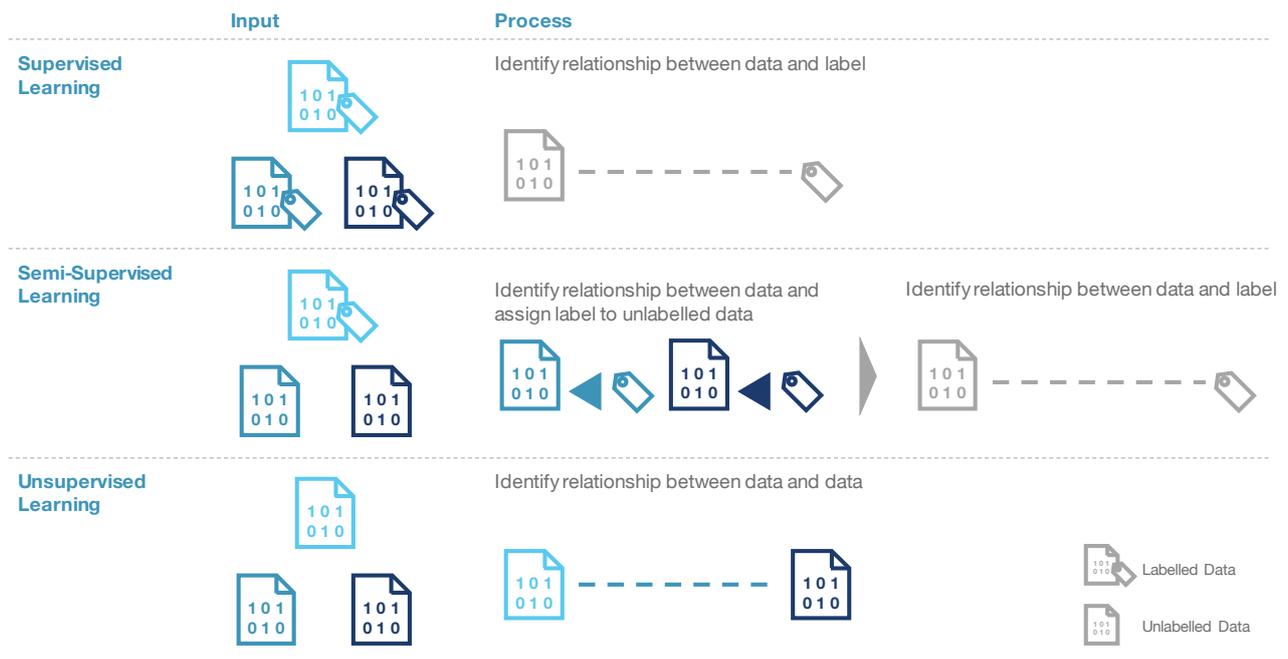
The analysis of a small volume of structured data, such as data generated by corporates, is relatively easy, and can be conducted through the use of basic software. By contrast, analysing a large volume of unstructured data, such as data generated by individuals, requires more effort and sophisticated technology.

Machine learning is the use of algorithms to learn from existing data, and subsequently predict the outcomes from new data. Machine learning techniques are becoming more popular due to their capacity to identify and extract patterns or relationships from massive amounts of data, capturing the underlying dynamics of an asset's performance.

There are three main types of machine learning which are most relevant to research conducted within the asset management industry, being: (1) supervised learning, (2) semi-supervised learning, and (3) unsupervised learning (see Figure 11).

Machine learning requires input, which, in this case, is alternative data, such as online reviews and social media posts. Data can be categorised into two groups: labelled data and unlabelled data. Labelled data refers to data associated with a tag or label, which contains information about the data, and is produced through manually tagging the data with the correct label. Unlabelled data is simply the raw data without any tags or extra information. Due to the extra steps required in its creation, labelled data is more expensive to produce than unlabelled data.

FIGURE 11: DIFFERENT TYPES OF MACHINE LEARNING



Source: Quinlan & Associates analysis

SUPERVISED LEARNING

Supervised learning requires labelled data, and the algorithm aims to identify the relationship between the data and the label. When presented with new, unseen data, the algorithm will use the relationship learnt to tag the data with a suitable label.

There are two main types of supervised learning, being classification and regression, where the main difference lies within the label. In classification-type problems, the labels represent different classes, such as “good”, “neutral”, and “bad”, while in regression-type problems, the labels are numerical values. For example, in the scope of the investment

industry, classification-type problems have labels such as “bullish”, “neutral”, and “bearish”, and regression type problems have labels indicating the price of assets, such as “USD 1.0” and “EUR 1.0”.

UNSUPERVISED LEARNING

The input for unsupervised learning is unlabelled data, and the algorithm tries to identify the underlying structure or distribution of the data.

The two main types of unsupervised learning are clustering and association. In clustering-type problems, the algorithm aims to cluster or group the data into different sets based on certain characteristics, while for association-type problems

the algorithm identifies different rules that describe the data. For example, the algorithm can group a set of assets into “Assets that perform well in January”, “Assets that perform well in February”, ..., and “Assets that perform well in December”, in a clustering-type problem. In association-type problems, the algorithm will produce rules, such as “Asset Group A performs well if Asset Group B performs poorly”.

SEMI-SUPERVISED LEARNING

As the name suggests, semi-supervised learning is a combination of supervised learning and unsupervised learning. Due to the relatively high cost in producing labelled data, only a minority of the data used in semi-supervised learning is labelled, with the rest being unlabelled. Similar to supervised learning, semi-supervised learning learns how to tag data with suitable labels. However, the aim of semi-supervised learning is to have a better performance than simply conducting supervised learning on the labelled data or conducting unsupervised learning on the unlabelled data.

In an extremely simplified manner, semi-supervised learning identifies relationships between the data, and labels the unlabelled data based on these relationships. This set of labelled data (both originally labelled and newly-labelled by the algorithm) is then treated as the input for a supervised learning algorithm to identify a suitable relationship between data and labels. This process is iterated to enhance the relationship prediction. An example of semi-supervised learning on alternative data will be discussed later (see Section 4).

CHOOSING THE RIGHT ALGORITHM

Each algorithm has its own merits and drawbacks, and should be chosen based on the type of data available and the desired result. If there is labelled data available, then asset managers are free to choose any machine learning algorithm (removing labels is quick and cheap, if unsupervised learning is desired). On the other hand, if there is only unlabelled data available, then asset managers must choose between conducting unsupervised learning, spending a relatively small amount to label some of the data and conducting semi-supervised learning, and spending a significant amount to label all data and carrying out supervised learning.

Because supervised learning and semi-supervised learning indicate the relationship between the data and labels (such as asset price or future performance indications), we believe they are best used with data directly relevant to a target asset, as the output relationship provides an indicative prediction on the performance of the asset.

On the other hand, unsupervised learning can be effectively used to analyse data with wider application, as this provides insight on the relationships and dynamics between multiple industries and assets, and can therefore help generate directional investment strategies – for example, during the World Cup, to invest in sports-related investment opportunities.

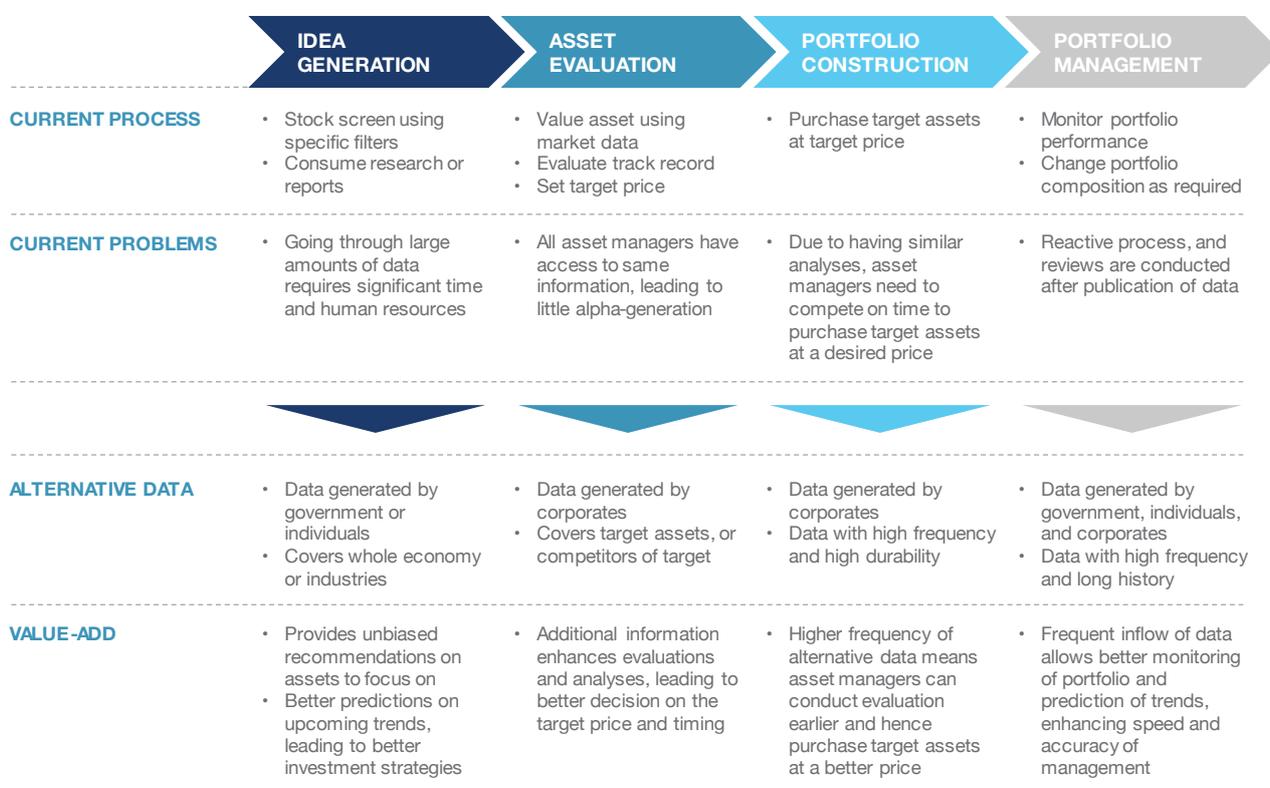
4. INCORPORATION

Using alternative data effectively requires incorporating the appropriate analysis at the right stage of the investment process. While there is no standardised approach for an investment process, it typically involves four steps:

1. Idea generation,
2. Asset evaluation,
3. Portfolio construction, and
4. Portfolio management.

Different types of alternative data and analysis should be used during different steps to ensure optimal alpha-generation (see Figure 12).

FIGURE 12: INCORPORATION OF ALTERNATIVE DATA



Source: Quinlan & Associates analysis

1. IDEA GENERATION

The first step of the investment process involves screening the economy and different industries to select assets that match certain criteria for further evaluation. Alternative data and its analysis can provide unbiased recommendations and insights prior to the publication of financial data. For example, transaction history contains consumer spending information, which is an indication for the state of the economy.

The aim of this step is to identify a suitable group of assets. Therefore, the alternative data used should have wide breadth and does not need to be directly relevant to any specific assets. Data involved at this stage of the investment process is most likely generated by governments or individuals.

2. ASSET EVALUATION

After choosing which assets to focus on, asset managers need to evaluate the asset and set a target price. Analysis of alternative data provides exclusive information and insight, enhancing alpha-generation compared to traditional analysis, such as those using financial reports and cash flows.

Using the previous example of JCPenny, the set of satellite pictures of the parking lot of JCPenny provides updated and exclusive information regarding the performance of JCPenny, allowing asset managers to better predict its financial performance prior to the publication of any official financial data. In addition, alternative data related to the target asset's competitors can also act as an indication for the performance of the target. This step of the investment process requires alternative data specific to the target asset or its competitors, and therefore is most likely produced by corporates (the target asset itself or its competitors).

3. PORTFOLIO CONSTRUCTION

Portfolio construction is the process of purchasing and acquiring the asset, in which timing is crucial. Currently, asset managers have access to homogeneous information and conduct similar analysis, leading to near-identical target prices. Therefore, asset managers compete with each other when financial data is published to complete analysis quicker in order to have a better chance at purchasing the target asset at the target price.

With the example of JCPenny, asset managers were bullish towards the company post-publication of its quarterly financials, flocking towards the company's shares. Those that were more efficient were able to purchase the shares when the price was still relatively low, while those slower to move lost out. By contrast, asset managers with access to the satellite images had weeks to take action, and would have benefited more from the opportunity. Ideal alternative data for portfolio construction should be more frequently updated than financial data, with high durability.

4. PORTFOLIO MANAGEMENT

Portfolio performance is continuously monitored, but is currently a reactive process, as asset managers are only able to judge performance after financial data is released.

Alternative data provides exclusive and more frequent information on the assets, therefore enhancing performance review. In addition, data with longer history helps predict future trends, and can therefore be used to evaluate the asset's future performance. For instance, transaction history of a certain brand indicates sales performance, and asset managers can determine a suitable action regarding the stocks of the brand prior to the announcement of their financial results. To conduct portfolio management effectively, the alternative data used should be frequently updated and have a long history.

THEORETICAL BENEFITS

We have identified five main ways in which the usage of alternative data can benefit active asset managers (see Figure 13):

1. Greater volume of data and information,
2. Unforeseen insight,
3. Competitive edge,
4. Fiduciary duty, and
5. Efficiency.

We believe using the right alternative data appropriately can enhance investment strategies and help managers generate higher alpha.

GREATER VOLUME OF DATA AND INFORMATION

Although alternative data tends to have a shorter history than traditional data (due to digitalisation and connectivity being a more recent trend), there are now also more sensors and processes that generate alternative data, and in a more frequent manner.

The volume of alternative data that one can access is significantly larger than available financial data. In addition, certain types of alternative data, especially data generated by individuals and governments, have wide breadth, providing a lot more information on a range of industries and assets which can contribute to better analysis. Furthermore, as alternative data is continuously updated, asset managers can conduct analysis on a continuous, real-time basis, enhancing target pricing and portfolio construction.

FIGURE 13: BENEFITS OF USING ALTERNATIVE DATA

| | Alternative Data | Traditional Data | Description |
|---|--|---|---|
| Greater Volume of Data and Information | <ul style="list-style-type: none"> • Frequently updated • Shorter history • Wide breadth | <ul style="list-style-type: none"> • Sparsely updated • Longer history • Narrow breadth | <ul style="list-style-type: none"> • Large amounts of data are being generated constantly, leading to more available information for better analysis • Frequent updates mean asset managers can carry out analysis sooner, enhancing portfolio construction |
| Unforeseen Insight | <ul style="list-style-type: none"> • Wide breadth • Profound implications to multiple assets, or even industries | <ul style="list-style-type: none"> • Narrow breadth • Only provides particular information, normally only directly relevant to few assets | <ul style="list-style-type: none"> • New data provides information on more than just financial performance, leading to better trend and performance predictions • Discovery of hidden relationships can help devise investment strategies |
| Competitive Edge | <ul style="list-style-type: none"> • Requires investments and capabilities | <ul style="list-style-type: none"> • Available to all • Analysis can be conducted relatively easily | <ul style="list-style-type: none"> • Talent and technologies are needed to gain value from alternative data, giving asset managers with the right resources higher alpha-generation |
| Fiduciary Duty | <ul style="list-style-type: none"> • Make use of available information and data | <ul style="list-style-type: none"> • Make use of financial data and few conversations only | <ul style="list-style-type: none"> • Asset managers are in charge of making optimal decisions for clients, and hence should incorporate as much data and analysis as possible into the investment process |
| Efficiency | <ul style="list-style-type: none"> • Rapid and efficient research and analysis • Wide coverage | <ul style="list-style-type: none"> • Highly manual research and analysis • Narrow coverage | <ul style="list-style-type: none"> • Alternative data provides insight to multiple assets, and can replace certain aspects of the current research process • Research analysts can spend longer time on better modelling or investment strategies |

 Enhance alpha-generation

Source: Quinlan & Associates analysis

UNFORESEEN INSIGHT

Traditional data only provides financial information specific to the corporates that produce them, while alternative data has more profound implications. For example, weather reports can provide indications of future consumer spending, transaction records can give hints regarding consumer preferences and the state of the broader economy, and satellite images can show stages of construction or traffic flow. This extra information can be used to enhance trend and performance predictions, leading to better investment decisions. In addition, unsupervised machine learning aims to discover hidden patterns and relationships between seemingly unrelated data, and asset managers can use these currently unknown relationships to generate new investment strategies.

Taking chess as an analogy, Deep Blue (a machine), in 1996, was able to win a game against – and subsequently, in 1997, took a series from – reigning world champion Garry Kasparov (a human). As it was the first time when a machine beat a human, this occasion was significant in history, and some claimed it was the beginning of the end for us. However, in 2005, Steven Cramton and Zackary Stephen entered a freestyle chess tournament that allowed the aid of machines. They won the tournament against both grandmasters (humans) and machines.²¹

This example, in many respects, suggests that human-machine co-operation may outperform humans or machines in their own right. In relation to the investment research industry, research analysts can provide humanly advantages, such as curiosity and creativity, while machines can offer quantitative evaluations of qualitative data. We believe this powerful combination of man and machine can help generate insight that was previously undiscovered.

COMPETITIVE EDGE

Collection and analysis of alternative data require investments in talent and technology (or funding for asset managers who choose to outsource the process). As previously mentioned in the report, information asymmetry is extremely helpful for alpha-generation. These barriers act as sources of information asymmetry, with managers able to appropriately use alternative data having exclusive insight to drive alpha-generation. The duration of this competitive edge depends on how long the barriers remain in force, and therefore the scarcity criterion mentioned previously should be considered carefully.

FIDUCIARY DUTY

Asset managers have a fiduciary responsibility, and are required to act in the interests of their clients. As such, they should make use of all available information and investment evaluation techniques, including alternative data and analysis, to identify optimal investment strategies. The use of alternative data and machine learning techniques can also enhance the marketability of asset managers, attracting investors and AuM inflows, as unbiased and sophisticated analysis on additional data enhances alpha-generation.

21 Prattle, 'Cyborgs Are The Future Of Finance', 9 May 2017, available at <https://prattle.co/cyborgs-are-the-future-of-finance/>

EFFICIENCY

Research and analysis are currently highly labour intensive in nature. The analysis of alternative data using machine learning techniques can replace certain aspects of research, automating the current research process. A single research analyst typically covers 12-15 stocks, while alternative data has the potential to generate insight on tens, hundreds, and even thousands of companies. While we believe current manual processes around research and analysis will still be required, managers can improve the efficiency of these processes by using alternative data and machine learning techniques, driving down research costs.

OBSERVED BENEFITS

Other than the JCPenny example, which has been referenced throughout this report, there are multiple occasions when the use of alternative data proved to be highly beneficial for asset managers.

Prattle, an alternative data firm which uses sentiment-based analyses on central bank and corporate communications to predict market impact, was able to evaluate European Central Bank (ECB) President Mario Draghi's June 2017 remarks both accurately and instantly, while the market spent nearly a day to fully understand his sentiment.²²

In 2015, another alternative data firm, Thinknum, documented an increase in the downloads of the iPhone app of Wayfair (an online retailer) along with improvements in online reviews. Thinknum's fund management clients were able to capitalise on a 20% increase in share price of Wayfair after the release of quarterly results.²³

Eagle Alpha is an alternative data firm set up by ex-Morgan Stanley banker Emmett Kilduff, whose service includes trade information between 12 major countries based on logistics invoices. Another example of Eagle Alpha's service is using dealership revenues from China Auto Insight dataset to predict the company revenue of Chinese car marker Great Wall Motors, with the model having a claimed error rate of under 5%.²⁴

RISKS AND CONSIDERATIONS

We have identified several risks and considerations associated with the use of alternative data (see Figure 14):

1. Inefficient usage,
2. High early-adopter costs,
3. Privacy,
4. Spread, and
5. Regulations.

22 Prattle, 'Decoding Draghi: How Machine Learning Beat The Market', 28 June 2017, available at <https://prattle.co/decoding-draghi-machine-learning-beats-market/>

23 Financial Times, 'Investors mine Big Data for cutting-edge strategies', 31 March 2016, available at <https://www.ft.com/content/f62ee814-f510-11e5-803c-d27c7117d132>

24 Citi, Searching for Alpha: Big Data, 10 March 2017

FIGURE 14: RISKS AND CONSIDERATIONS

| | Description | Mitigation | Control |
|---------------------------------|---|---|---------|
| Inefficient Usage | <ul style="list-style-type: none"> Use data with no/little alpha-value Conduct the wrong analysis | <ul style="list-style-type: none"> Evaluate data and data source based on criteria Develop or acquire suitable talents or technological capabilities | |
| High Early-Adopter Costs | <ul style="list-style-type: none"> Uncertainties Require high level of commitment and investments | <ul style="list-style-type: none"> Obtain sufficient financial backing Outsource process to observe benefits before significant investments | |
| Privacy | <ul style="list-style-type: none"> Data collected may contain personal data, breaching privacy laws | <ul style="list-style-type: none"> Procure aggregated and anonymised data | |
| Spread | <ul style="list-style-type: none"> Alpha-value will erode as more asset managers adopt alternative data | <ul style="list-style-type: none"> Erect barriers to entry, such as exclusive access to data or internal capacities to analyse the data in a cost-efficient manner | |
| Regulations | <ul style="list-style-type: none"> Relatively young business area with few regulations, providing little protection Future introductions of regulations as alternative data usage becomes more mainstream | <ul style="list-style-type: none"> Communicate with regulatory bodies to understand and prepare for potential regulation implementations | |

Source: Quinlan & Associates analysis

INEFFICIENT USAGE

Inefficient usage refers to choosing the wrong alternative data that contains no alpha-value, as well as employing analysis that fails to extract meaningful insights. This is because not all alternative data contains alpha-value and not all analyses can extract this value from that data. In addition, there may be sampling issues with some data, especially exhaust data, as data generated unintentionally may not be suitable for judging business performance. As such, asset managers need to select alternative data and data sources carefully based on the previously-listed criteria to ensure alpha-generating insight can be extracted in a cost-efficient manner. The evaluation of alternative data should be tailored to the funds' strategy and research methods, for example, longer-running models require adequate history, while shorter-term products may require shorter history but higher frequency.

Asset managers should also look to invest in both talent and technology to conduct data collection and analyses in-house. Consideration must be given to the most appropriate procurement and analysis approach based on a firm's internal capabilities and resource constraints, as outlined earlier in this section of the report.

HIGH EARLY-ADOPTER COSTS

As with any new industries or technologies, there is a high level of uncertainty surrounding the use of alternative data. First movers may suffer from over commitment, while followers have the benefit of observing and learning from first movers' mistakes. Developing capabilities to analyse and effectively leverage alternative data requires significant time and investment, and only those firms with sufficient financial capacity and operational bandwidth should consider internal development at an early stage.

PRIVACY

Data, especially exhaust data, can contain personal or sensitive information which may be protected by certain data privacy laws. The use of aggregated or anonymised data (in which individuals are not identified) will most likely mitigate this risk. Even though individuals tend to agree to terms and conditions, which gives ownership and right to sell this data, personally identifiable data needs to be removed. Asset managers and alt-data firms will need to exercise due care when utilising alternative data sources that are more sensitive in nature.

SPREAD

As previously mentioned, one of the main benefits of using alternative data is the exclusive information and insight it can provide. As technology advancements continue, it will be easier and cheaper to collect and analyse large volumes of data efficiently, and even smaller asset managers and sophisticated investors who currently are unable to use alternative data will one day be able to do so.

As alternative data becomes more widely-adopted by investment managers, it will slowly become viewed as traditional data, just like the financial data and reports we have today. Accordingly, it is unavoidable that alpha-value will eventually erode. Asset managers need to erect barriers, such as patents or monopolising the access to certain data, to protect the value of any alternative data being used.

REGULATIONS

While companies have long used non-traditional data to enhance business decisions, the systematic use of alternative data is still relatively new, with few regulations governing its use. Although the absence of regulations means greater flexibility and freedom in its usage in the immediate-term, many firms are currently not well-protected from potential conflicts that may arise down the road. In addition, as the use of alternative data and exclusive agreements become more popular, regulators may be concerned that this provides an unfair market advantage, and will therefore place greater restrictions on its use, which may render obsolete some capabilities that are currently being developed for alternative data usage.

CONTROL OVER RISKS AND CONSIDERATIONS

Out of the five risks and considerations, asset managers have the least control over spread and regulations, simply because these factors are driven by the industry and regulators, and therefore should warrant the highest attention. The other three factors, which asset managers have a higher level of control over, should be analysed and evaluated prior to the incorporation of alternative data, to ensure optimal alpha-generation.

SECTION 4

CASE STUDY - PRATTLE

OVERVIEW

We had the opportunity to interview the team at Prattle, a US-based alternative data firm founded in 2014 by Dr. Evan Schnidman and Dr. Bill MacMillan, authors of the book, *How the Fed Moves Markets*.

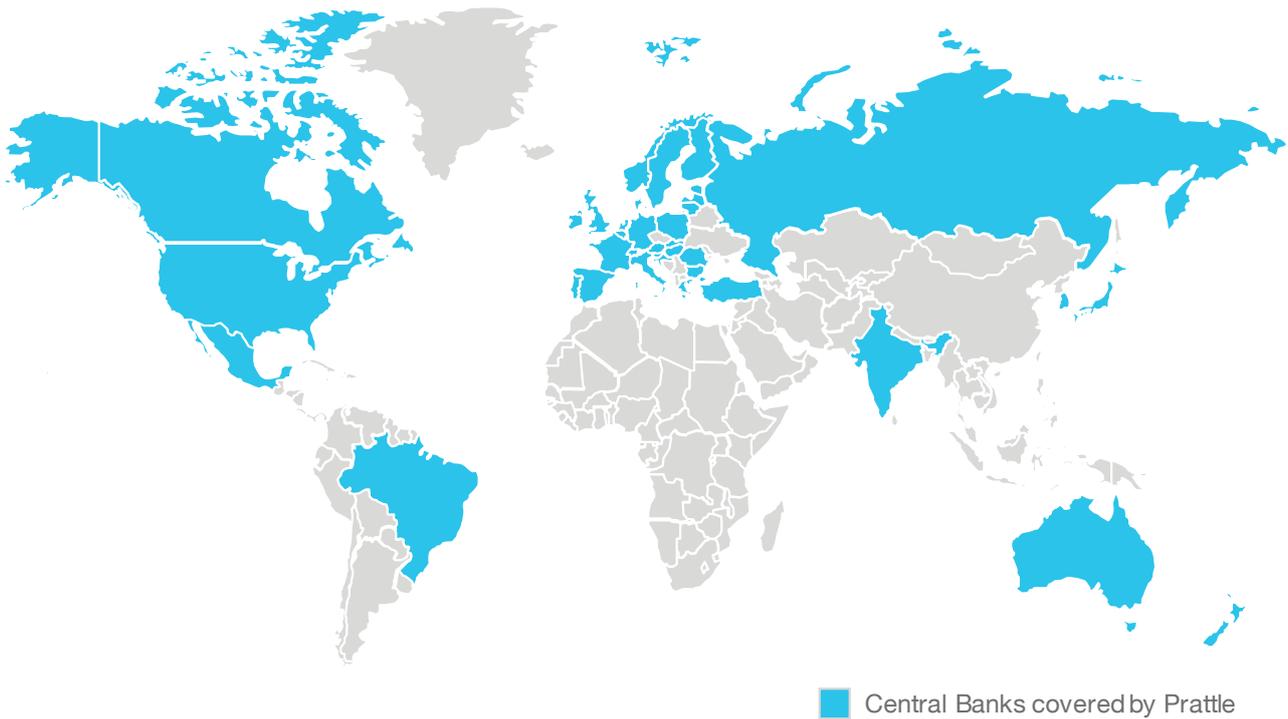
Realising that research has hardly changed in 100 years, with research analysts still subjectively analysing non-numerical language, the Prattle founders developed an algorithm quantifying language in an unbiased manner using machine learning and natural language processing (NLP) techniques. Prattle quantifies market-moving language to provide clients with actionable analytics on central bank and corporate communications. A distinguishing feature of Prattle is that it is able to quantify qualitative data.

PRODUCT OFFERING

Prattle currently covers 18 central banks (see Figure 15), quantifying the language of every central bank communicate. Prattle's scoring system is based on a lexicon developed by examining market response to prior policy statements, minutes, and speeches from that particular central bank and speaker. Prattle produces a numerical score between -2 to 2 to indicate the impact each communication is likely to have on the market. Under the Prattle scoring system, negative values indicate dovishness and positive values indicate hawkishness.

REALISING THAT RESEARCH HAS HARDLY
CHANGED IN 100 YEARS, WITH RESEARCH
ANALYSTS STILL SUBJECTIVELY ANALYSING
NON-NUMERICAL LANGUAGE, THE PRATTLE
FOUNDERS DEVELOPED AN ALGORITHM
QUANTIFYING LANGUAGE

FIGURE 15: CENTRAL BANKS COVERED BY PRATTLE



Source: Prattle

Prattle also has an additional service, Prattle Equities Analytics, which quantifies the sentiment of communications from nearly 3,000 public companies in the US using a similar scoring system, in which each company is analysed via its own unique

lexicon. Under the Prattle Equities Analytics scoring system, negative values indicate a negative outlook and positive values indicate a positive outlook for the equity price movements.

USER EXPERIENCE

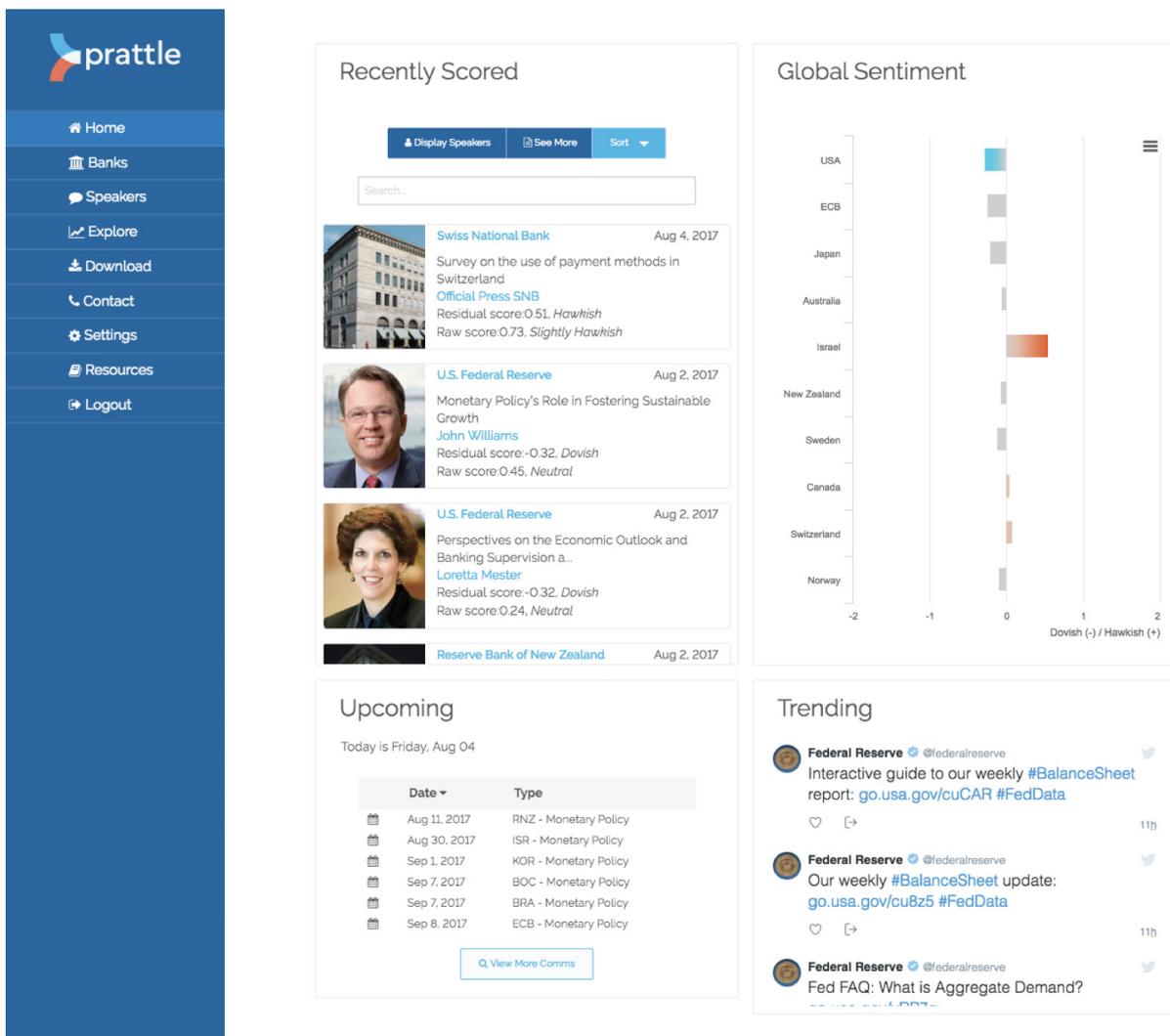
PRICING AND SUBSCRIBERS

Prattle operates under a subscription model. For the central bank service, subscription price depends on team size and number of central banks accessed, with the most popular package charging USD 75,000 p/a for access to the G10 Central Banks' data for five users. For the equities service, pricing ranges from USD 10,000 p/a for a single user to access one asset class to USD 30,000 p/a for a single user to access all 3,000 stocks covered by Prattle. Prattle's current subscribers include global asset managers, hedge funds, and tier-1 investment banks.

USER INTERFACE

The Prattle Central Bank portal shows: (1) recently scored central bank communications, which users can click on for more information; (2) current scores of however many central banks a subscriber has access to, allowing easy comparison between sentiments of central banks; (3) upcoming communications to remind users when the next communications are due; and (4) trending posts on social media posted by central banks (see Figure 16). Users can view the score history of each central bank, and can even view the score history of each speaker. There is also an option to compare the scores with a broad selection of market data, including stock prices, macro data such as real GDP and prime rate, bond rates, and foreign exchange rates.

FIGURE 16: PRATTLE CENTRAL BANK DASHBOARD

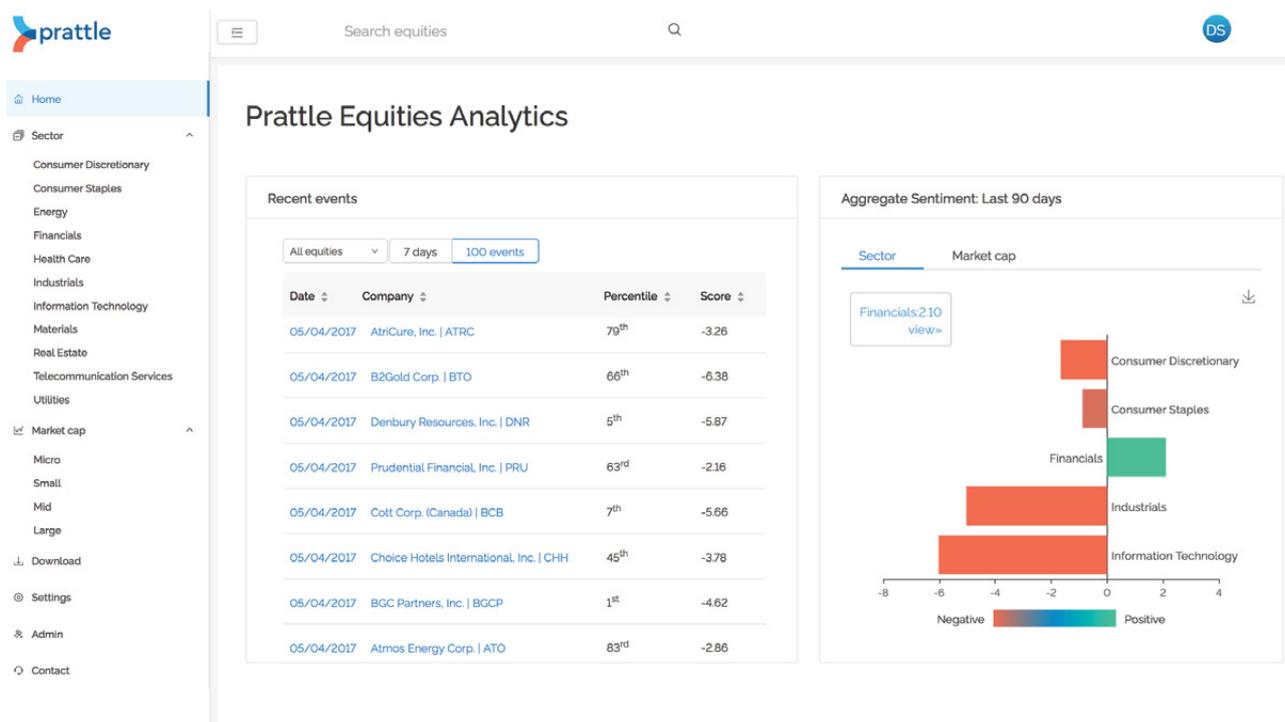


Source: Prattle Central Bank Portal

The Prattle Equities Analytics dashboard contains: (1) recent events showing the scores of listed companies with the most recent communications; (2) an aggregate sentiment for the past 90 days by sector or market capitalisation; (3) 10K and 10Q regulatory filing data; and (4) fundamental financial information for each stock (provided by FactSet)

(see Figure 17). Users can view the score history by sector, subsector, or company. For example, Prattle Equities Analytics can show the score history for the financial sector, or subsector such as banking, insurance, and REITs, or an individual firm.

FIGURE 17: PRATTLE EQUITIES ANALYTICS DASHBOARD



Source: Prattle Equities Analytics Portal

DELIVERY OF SCORES

The core component of Prattle, the score of each market moving communication, is accessible almost instantaneously after a communique is published. This score is made available through multiple channels, including the Prattle portal, push notifications, e-mails, and API feeds, which can be directly integrated into asset managers’ internal models or analyses.

Additional metadata, including the date and time of communication, source, speaker, communication type, and URL, is attached with the scores accordingly, for verification and information management purposes.

IDENTIFICATION

Here we evaluate primary source language as alternative data using our alpha-generating framework, with Prattle as the alternative data source (see Figure 18).

FIGURE 18: LANGUAGE AS AN ALTERNATIVE DATA

| | CRITERIA | DESCRIPTION | EVALUATION | EXPLANATION |
|---------------------------|------------------|--|------------|--|
| ALPHA-GENERATING CRITERIA | 1 RELEVANCE | • Relevance to target industry or asset | ? | • Dependant on the source of language; corporate communications are directly relevant to the source while government communications tend to be less impactful towards a specific asset |
| | 2 BREADTH | • Number of industries or assets the data is relevant to | ? | • Dependant on the source of language; government communications have wider coverage than corporate communications |
| | 3 UNIQUENESS | • Whether insight is unique to the data or can be obtained elsewhere | ✓ | • Future plans and actions, and hence their impacts, are typically communicated through announcements only |
| | 4 SCARCITY | • Barriers to access data | ✗ | • Communications are made to investors or the public, and are freely obtainable |
| | 5 HISTORY | • Length of history of data | ✓ | • Communications, even those made a long time ago, are recorded and can be used for analysis |
| | 6 FREQUENCY | • Frequency of data updates | ? | • Dependant on the source, but communications tend to be made regularly throughout the year |
| | 7 DURABILITY | • The length of time the data remains relevant for | ? | • Dependant on the content of the communications as some are more short-term while others are more forward looking |
| OPERATIONAL CRITERIA | 9 QUALITY | • Accuracy and reliability | ✓ | • Communications are made by individuals directly related to the source, and the information is tagged by Prattle |
| | 8 DELIVERY | • The form and structure of the data, and the degree to which it is tailored | ? | • Numerical scores between -2 and 2 are given, which is easily understood • Prattle currently cover specific central banks and corporates, which means low degree of tailoring |
| | 10 DIGESTIBILITY | • Ability of internal talents and technology to analyse data | ✓ | • Analysis is conducted by Prattle, therefore highly digestible |
| | 11 COST | • Cost to obtain and analyse the data | ? | • Need to compare subscription cost of Prattle to the cost of in-house procurement and analysis |

✓ Favourable ? Conditional ✗ Unfavourable

Source: Quinlan & Associates analysis

FAVOURABLE CRITERIA

UNIQUENESS

Central banks and corporates communicate forward-looking statements. This contrasts with other alternative data, such as satellite images, which reflect current and ongoing situations.

HISTORY

Most public communications have been recorded since 1998, offering reliable data sets with long history.

QUALITY

Raw data is linked on the platform and can be verified. Additionally, the algorithm continuously improves its accuracy through machine learning.

DIGESTIBILITY

Raw data is output into a single numerical score. The analysis is highly digestible and requires virtually no additional internal talents or technological capabilities on the part of the user.

CONDITIONAL CRITERIA

RELEVANCE & BREADTH

Communications from central banks tend to cover the whole economy but do not target specific industries or assets, and therefore have wide breadth but low relevance. By contrast, communications from corporates have high relevance to the particular asset but narrow breadth.

FREQUENCY

Highly dependent on the source. Central banks and larger corporates tend to communicate more frequently and regularly versus smaller corporates.

DURABILITY

This depends on the content of the communication. For example, “We aim to raise interest rates after the economy fully recovers and employment targets are met” is more long-term than “We will raise interest rates within the next quarter”.

DELIVERY

The alternative data is available almost instantaneously after a communique is published and through multiple channels. However, the data is not customisable to the specific situation of the individual asset manager.

COST

The subscription cost and efficacy of a service like Prattle need to be compared with the cost of developing and maintaining in-house processes for gathering and analysing this information.

UNFAVOURABLE CRITERIA

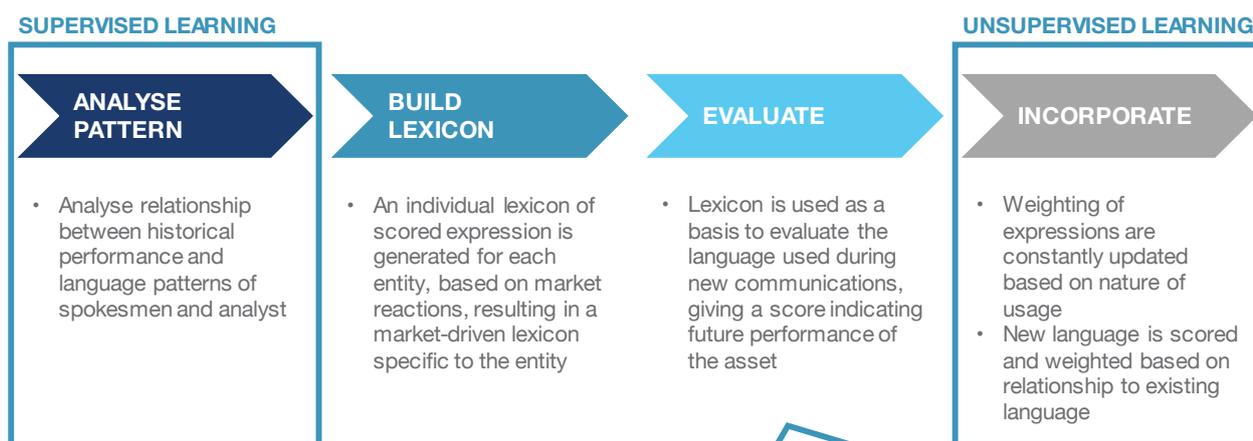
SCARCITY

Public statements and announcements are, by definition, public and freely available. However, scarcity also depends on the ability to extract the insight, and the capability to comprehensively analyse communications and quantify language in an unbiased manner, such as Prattle’s service, is not available to all asset managers.

ANALYSIS

Prattle uses Machine Learning and NLP techniques to analyse the language used in communications. The algorithm is used on the speakers or analysts of each central bank and corporate individually, to tailor the scoring and weighting to the specific language used by the speaker or analyst, providing a more sophisticated analysis on the communication. The algorithm Prattle employs is demonstrated in the following figure (see Figure 19):

FIGURE 19: PRATTLE’S ALGORITHM



| | ANALYSIS OF LANGUAGE | SCORING PROCESS | RESULT |
|-------------------------------|---|---|---|
| Traditional Algorithms | <ul style="list-style-type: none"> Words are labelled with a corresponding score based on historical performance A dictionary is created | <ul style="list-style-type: none"> Identify words with scores within the communication, and add up the scores | <ul style="list-style-type: none"> Simply a number comparing the number of positive words used to the number of negative words used Very little understanding towards sentiment behind communications |
| Prattle | <ul style="list-style-type: none"> Language is analysed, including diction, sentences, phrases, and paragraphs A lexicon is created Lexicon is constantly updated through machine learning | <ul style="list-style-type: none"> Identify existing language, and score overall communication based on scores and weightings Learn from new language | <ul style="list-style-type: none"> A score that reflects the usage of lexicon, not just the words Unbiased and quantified understanding towards overall sentiment behind communications |

Source: Prattle, Quinlan & Associates analysis

The algorithm starts with supervised machine learning, with the input labelled data being past communications labelled with respective interest rate changes or currency and stock price movements. The diction, sentences, phrases, and paragraphs are analysed, scored, and weighted, based on the impact they have on the market, creating a lexicon. Using this lexicon as a basis, the algorithm evaluates and quantifies new communications based on

the language used in the communication (new language that is not in the lexicon is unscored, as there is no basis for evaluation), taking into account the respective scores and ratings, and provides a numerical score. Note that the score is derived from not just the specific communication, but also from the tone and sentiment of communications in the past from the same individual or organisation.

Post-evaluation, the lexicon is updated through unsupervised machine learning, as follows:

1. Language that already exists in the lexicon has its weighting updated based on the evolving way in which the language is used; and
2. Language that is new to the lexicon is weighted based on how it is used in this communication and in relationship to existing expressions.

Prattle emphasises that the algorithm works on lexicons, not dictionaries. Most language analysis available in the market quantifies communications based simply on words used in the communication. Evaluating the lexicon, on the other hand, allows the algorithm to better understand the diction, phrases, and expressions used in relation to each other, enabling a more comprehensive analysis, and therefore allowing the algorithm to better quantify the overall sentiment behind the communication.

PRATTLE IN USE

In 2016, it was reported following the Brexit referendum results that the Bank of England was ‘set to cut interest rates...to cushion the economy’ and a ‘clear signal’ was sent by Governor Mark Carney.²⁵ The futures market indicated a 75% chance that the Bank of England would announce a rate cut in the policy statement on 14 July 2016. By contrast, Prattle predicted a rate hold based on neutral rather than dovish sentiment expressed in the Bank of England’s communications, particularly a key speech by Mark Carney on 5 July 2016. The Bank of England held rates steady, against the market consensus, but in alignment with the Prattle algorithm.

In another example in 2016, the San Francisco Fed analysed Prattle’s score to review the Fed’s communication strategy, and it was reported that ‘Prattle was accurately able to predict what the Fed’s infamous “dot plot” would look like upon its next release.’²⁶

Prattle is also a partner of Nasdaq Analytics Hub, a platform launched by Nasdaq in May 2017.²⁷ The platform allows Nasdaq to partner with start-ups to ‘apply machine intelligence on proprietary and third party data sets to create new signals that investors may not have been able to access on their own.’

In June 2017, the market overestimated the hawkish sentiment of ECB President Mario Draghi’s remarks at the ECB Forum on Central Banking. Accordingly, the market overreacted and only recovered a day later, after an explanation from ECB policymaker Vitor Constancio. We understand that, by contrast, the Prattle algorithm was able to point out the slightly dovish sentiment behind the communication, in line with the sentiments of Mario Draghi’s original remarks, and the result was produced instantly.

25 Reuters, ‘Bank of England poised to cut rates to cushion Brexit hit to UK’, 14 July 2016, available at <http://www.reuters.com/article/britain-eu-boe-idUSL8N19Z4QD>

26 Business Insider, ‘The Fed just admitted that a startup can predict its upcoming interest rate forecasts’, 8 September 2016, available at <http://www.businessinsider.com/san-francisco-fed-on-prattle-2016-9>

27 Nasdaq, ‘NASDAQ ANNOUNCES LAUNCH OF THE “NASDAQ ANALYTICS HUB”’, 16 May 2017, available at <http://ir.nasdaq.com/releasedetail.cfm?releaseid=1026606>

QUANTIFIED BENEFITS

According to Prattle, their algorithm correctly predicted 98% of G-10 monetary policy decisions, compared to an accuracy rate of 90% of market consensus, during the 12 months ended July 2017. An example of when Prattle's algorithm predicted incorrectly was during an attempted coup in Turkey, and as central banks had never referenced such an event, the algorithm was unable to analyse the communications. Even though Prattle is not 100% accurate, research analysts can use Prattle as a sense check, to verify and enhance their own analyses.

By automating parts of the equities research process, Prattle helps expand an analyst's coverage universe and lowers costs. According to Prattle, an analyst using Prattle can cover over 100 stocks at an average cost of USD 100 per stock, compared to 10 stocks at an average cost of USD 55,000 per stock for traditional analysts.

For equities, Prattle believes that 10-20% of price movements are not captured by currently available data. Prattle Equities Analytics is designed to help asset managers quantitatively understand these subtler price movements, that are currently only understood or justified by subjective interpretation of corporate communications.

OUTLOOK

As we have discussed in previous reports, a recent development in investment research is the rise of online research marketplaces (ORMs), which aggregate research content from different providers. Beyond the direct analysis of central bank and individual company communiques, we believe the sentiment analysis capabilities of firms such as Prattle can provide an additional quantitative insight – into research analysts' sentiment, both individually and in aggregation, across an ORM, potentially even incorporating users' feedback.

SECTION 5

IMPLICATIONS FOR ACTIVE MANAGERS

As with any technological disruption, incumbents can either reject or accept the new idea. While we recognise alternative data and machine learning capabilities are being actively explored by hedge funds, many long-only active managers are still considering whether to incorporate such developments into their traditional investment processes.

It is our view that active managers who choose to continue operating using traditional data and analysis techniques are facing extreme margin compression. Based on current AuM growth trends, fund outflows from active managers, and increasing fee pressures across the broader industry, we anticipate a 25%

decline in the global active manager revenue pool within 5 years. Moreover, despite a wave of industry consolidation and other internal cost-saving initiatives to rationalise the industry's cost base, increased regulatory scrutiny (e.g. MiFID II) is likely to make meaningful cost reductions difficult to attain.

As a result, we expect the average cost-to-income ratio of active managers to increase from ~60% at present to ~75% by 2022 under existing operating models, reducing profit margins from ~40% to ~25% (see Figure 20).

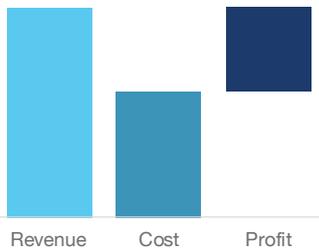
IT IS OUR VIEW THAT ACTIVE MANAGERS WHO
CHOOSE TO CONTINUE OPERATING USING
TRADITIONAL DATA AND ANALYSIS TECHNIQUES
ARE FACING EXTREME MARGIN COMPRESSION

FIGURE 20: P&L IMPLICATIONS FOR ACTIVE MANAGERS

STATUS QUO

2017

CURRENT INDUSTRY POSITIONING



- Ongoing shift in assets from active to passive managers
- Continued industry fee compression as managers fight to both attract new assets and retain existing AuM

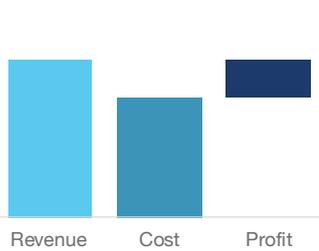
PROFIT MARGIN

40%

OPTION 1

2022

TRADITIONAL DATA USE



- Active manager revenues to fall by up to 25%, driven by outflows/fee pressure from underperformance
- Cost reduction driven by economies of scale (e.g. M&A) and internal cost optimisation initiatives, but offset by growing investor demands and compliance pressures (e.g. MiFID II)

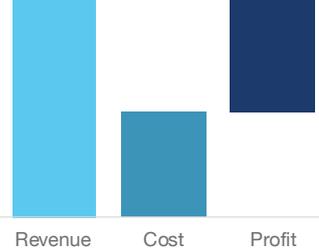
PROFIT MARGIN

25%

OPTION 2

2022

ALTERNATIVE DATA USE



- Active manager revenues to grow by up to 15%, with outperformance driving AuM appreciation and NNM inflows, negating fee pressure
- Streamlining of manual, low value-add processes via machine learning applications to drive cost reductions of up to 15%

PROFIT MARGIN

55%

Note: the 2017 profit margin represents the industry average, while the 2022 (Option 1) profit margin represents the active manager average and the 2022 (Option 2) profit margin represents leading active managers' who effectively incorporate alternative data

Source: Quinlan & Associates analysis

EMPLOYING ALTERNATIVE DATA

We believe the incorporation of alternative data has three major implications for active managers, including: (1) alpha-generation; (2) revenue uplift; and (3) cost reduction, all of which can help to drive underlying profitability.

1. ALPHA-GENERATION

We believe alternative data has the potential to address some of the alpha-generation limitations outlined in Section 2, namely: (1) Market Efficiency; (2) Identical Methodology; and (3) Talent.

Alternative data provides asset managers with a greater volume of information on which to base their investment decisions, offering them a competitive edge versus funds that use only traditional data. And the scarcer this data, the stronger the edge. This potentially exclusive information also allows managers to better value, and hence identify, mispriced assets and potential stock price movements. Effectively incorporating alternative data into a manager's investment process also makes the methodology – and hence insights – unique. The use of machine learning capabilities also has the potential to streamline the investment research process, allowing analysts to focus on more sophisticated, value-add analyses instead of spending their time on low-value, manual processes.

GoPro is an example in which alternative data has been used to identify mispriced shares. For Q3 2016, analysts anticipated GoPro to report a small loss. However, data firm Qandl expected a considerably higher loss, based on an examination of GoPro's electronic receipts. In November 2016, following the release of Q3 results, GoPro's share price fell by over 20%. This example, along with the JCPenny and Thinknum/Wayfair examples outlined in Section 3, demonstrates the ability of alternative data to pre-emptively identify potential share price movements in search of alpha.

2. REVENUE UPLIFT

With improved investment performance, active managers stand to improve their top-line revenues through a combination of asset appreciation, which should in turn help to drive NNM inflows. By outperforming the market, active managers can also justify the higher management fees they charge, countering ongoing fee pressures.

We believe active managers who can successfully incorporate alternative data into their investment processes can capture a revenue uplift of 15% by 2022.

3. COST REDUCTION

As discussed in Section 2, there are limits to how many stocks a single analyst can cover, which means it is costly to cover a wide range of stocks. While alternative data and machine learning cannot completely replace the role of a research analyst, we believe many manual processes can be replaced by automation, which could ultimately drive reductions in costs.

In conjunction with internal cost-saving initiatives that are currently in place, we believe active managers can reduce their cost base by 15% within the next 5 years.

IMPACT ON PROFIT MARGINS

Considering factors such as existing fund performance, AuM trends (including asset appreciation and fund flows), and ongoing fee pressures, we believe leading active managers that can effectively leverage alternative data stand to improve their profit margins to 50-55% by 2022, up from an industry average of 40% at present.

For a manager charging an average management fee 75 bps, every AuM of USD 100 billion translates to a profit of USD 400 million compared to a current profit of USD 300 million, an uplift of USD 100 million.

TURNING THE TIDE

Lisa Shalett, Head of Investment and Portfolio Strategies and Morgan Stanley Wealth Management, believes the economic environment has played to the favour of passive managers over the past seven years.²⁸ She argues that passive funds benefitted from factors including ‘low volatility, high correlations, slow growth [,] and reduced fiscal spending’, which worked against active funds. However, she also believes ‘we are in the early stages of a major regime shift’, and historical data indicates that ‘this is when active managers have the best potential to find mispriced securities’, and hence generate alpha.

In addition, a senior industry executive we spoke to at a leading global investment bank believes that even though active managers will find it hard to generate alpha in developed markets, they should find it easier to identify mispriced assets in emerging markets, which are traditionally less efficient.

Active managers seem to believe that the tables are turning, and it will be their time to shine again. Industry experts agree and see potential for active managers to outperform passive managers. However, we believe the opportunities to identify mispriced assets will continue to decline in a world of ubiquitous traditional data, in which market inefficiencies are rapidly disappearing. As a result, active managers that fail to leverage alternative data and machine learning capabilities will likely become obsolete in the next decade.

SUMMARY

With investor preferences continuing to shift from active to passive funds, as well as growing regulatory headwinds such as MiFID II on the cards, active asset managers are facing a perfect storm of downward revenue pressure and rising costs, compressing margins and squeezing out smaller players.

Even though the performance of active managers are expected to improve in the near future, we believe traditional active asset managers will find it increasingly challenging to identify mispriced assets as market inefficiencies disappear, and hence find it more difficult to justify their current business model.

We believe now is the time for asset managers to explore the use of alternative data and machine learning capabilities, not only through providing alpha-value during research, but also through automation, leading to better investment outcomes at a lower cost than traditional research methods. Asset managers with appropriate capabilities should look to invest in the alternative data space and establish effective barriers – in terms of both access to the data and the technological capabilities to analyse it – to reap its full benefits before the unconventional becomes the conventional.

At a time when outperformance has become considerably more challenging, it is time for active managers to go in search of alternative alpha.

28 Morgan Stanley, ‘Active Management Re-emerges as Economic Trend Shift’, 1 February 2017, available at <https://www.morganstanley.com/ideas/active-management-2017>

SECTION 6

HOW CAN WE HELP?

Our consultants have worked with a number of asset managers, alternative data firms, and ORMs on the introduction and incorporation of alternative data.

ASSET MANAGERS

As outlined in Section 3, asset managers need to identify appropriate data, procure and analyse data efficiently, and incorporate analysis into the investment process appropriately. Examples of areas where we can help include:

- Analysis of current investment strategies to find suitable alternative data usage opportunities, including the identification of appropriate sources
- Determine the most effective procurement and analysis approach according to an asset manager's resources and capabilities
- Construct a strategic roadmap for incorporation of alternative data and its analysis into an asset manager's investment process
- Identify suitable alternative data firms for collaboration or acquisition, including conducting strategic due diligence and analysis

ALTERNATIVE DATA FIRMS

Alternative data firms are well positioned to capitalise on the rising interest from asset managers in exploring alternative data usage. Examples of areas where we can help include:

- Industry and competitor analysis, including product and capability benchmarking
- Guidance on strategy and market positioning to best market and price products and/or services on offer
- Identification and articulation of unique selling propositions, including brand positioning, with respect to product, performance, and potential
- Identify suitable asset managers for collaboration or sale, including conducting strategic due diligence and analysis

ORMs

Research consumers are selective in terms of which ORM they use, and offering alternative data research and analysis techniques are likely to provide ORMs with a unique edge over competitors. Examples of areas where we can help include:

- Identify suitable alternative data firms to approach and the best way to market to shortlisted firms
- Determine a workable collaboration/partnership framework, including the appropriate division of operational and strategic responsibilities

QUINLAN & ASSOCIATES

STRATEGY WITH A DIFFERENCE

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