

# Manager profile

A member of the Man Group

Quarter 2, 2008

## Introduction

AHL implements a number of futures programmes, of which the main one is the AHL Diversified Programme. These programmes are quantitative and primarily directional in nature, meaning they seek to identify and take advantage of upward and downward price trends. Trading takes place around-the-clock and real-time price information is used to respond to price movements across a diverse range of global markets encompassing stock indices, bonds, currencies, short-term interest rates and commodities. The instruments traded are primarily futures contracts and foreign exchange and metal forwards. Investment rules are executed within a systematic framework.

With a track record dating back to 1987, AHL has always been underpinned by a strong research ethic. Sophisticated research remains central to the manager's ability to extend the range and versatility of the original investment techniques. In addition to a well-grounded investment philosophy and a dedicated team of investment specialists, AHL owes much of its success to a robust and finely tuned trading and implementation infrastructure. Every aspect of the investment and execution process is analysed in detail to identify and extract efficiency gains. Refinements to the investment process have been as much a feature of the manager's history as the continuity of the AHL investment philosophy and principles - diversification, discipline, efficiency, rigorous risk control and ongoing research.

## Investment philosophy

The cornerstone of the AHL investment philosophy is that financial markets experience persistent anomalies or inefficiencies in the form of price trends. Trends are a manifestation of serial correlation in financial markets – the phenomenon whereby past price movements inform about future price behaviour. Serial correlation can be explained by factors as obvious as crowd behaviour, as well as more subtle factors, such as varying levels of information among different market participants. Although they vary in their intensity, duration and

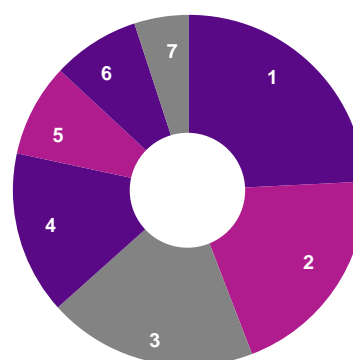
frequency, price trends are universally recurrent across all sectors and markets. Trends are an attractive focus for active trading styles applied across a diverse range of global markets.

## Investment approach

The AHL Diversified Programme trades a diversified portfolio of over 100 core markets on around 36 exchanges. These encompass stock indices, bonds, currencies, short-term interest rates and commodities (energy, metal and agricultural contracts).

### AHL Diversified Programme Diversification: Market sectors

As at 31 March 2008<sup>1</sup>



1	Currencies	24.3 %
2	Bonds	19.8 %
3	Energies	19.2 %
4	Stocks	15.1 %
5	Interest rates	8.5 %
6	Metals	8.2 %
7	Agriculturals	4.9 %

Source of data: Man database.

<sup>1</sup>Figures for the sector allocations are designed to reflect the expected long-term risk exposure to each sector relative to the other sectors in the portfolio. The figures are based on estimates of the risk of each sector for the current portfolio. The portfolio structure and constituents are regularly reviewed by the investment management team and sector allocations will change accordingly.

As well as emphasising sector and market diversification, the AHL programmes have been constructed to achieve diversification by combining various systems or strategies. The systems are driven by powerful computerised processes or trading algorithms, most of which work by sampling prices in real time and measuring price momentum and breakouts. On aggregate, the systems run over 3,000 price samples each day spread over the instruments traded. The reason for basing most of the AHL systems on price or ‘technical’ market data, as opposed to fundamental economic data, is that technical data is generally more suited to active trading systems as it is more reliable, less subjective and more efficiently captured than fundamental data. The AHL trading algorithms aim mainly to capture price trends and close out positions when there is a high probability of a different trend developing, although the programmes may include algorithmic systems based on certain forms of quantitative fundamental data that can be captured efficiently, such as interest rate data.

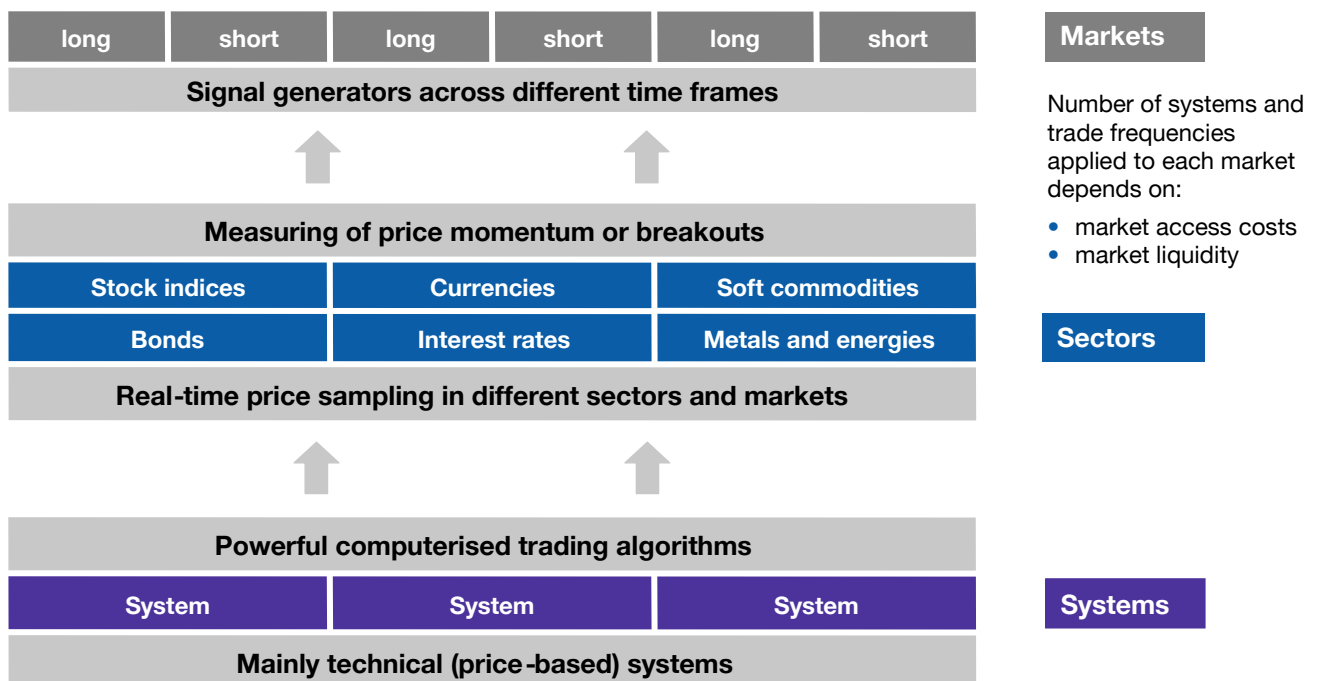
Another important aspect of diversification is the fact that the various systems generate signals across different time frames, ranging from two to three days to several months, which helps to reduce the risk of the AHL programmes.

The systems are versatile and are adjusted for the different sectors, although they are generally applied to markets within the same sector without modification. The number of systems applied to a particular market varies depending on:

- market access costs
- market liquidity

Markets with lower access costs and greater volume and liquidity are able to support a greater number of systems, including those with higher trading frequencies.

#### Diversification: systems and trade frequencies



## Portfolio management and risk control

In line with the principle of diversification, the AHL approach to portfolio construction and asset allocation is premised on the importance of deploying investment capital across the full range of sectors and markets. The main factors that determine asset allocation weightings to different sectors and markets are:

- market and sector correlations
- expected returns
- market access costs
- market liquidity

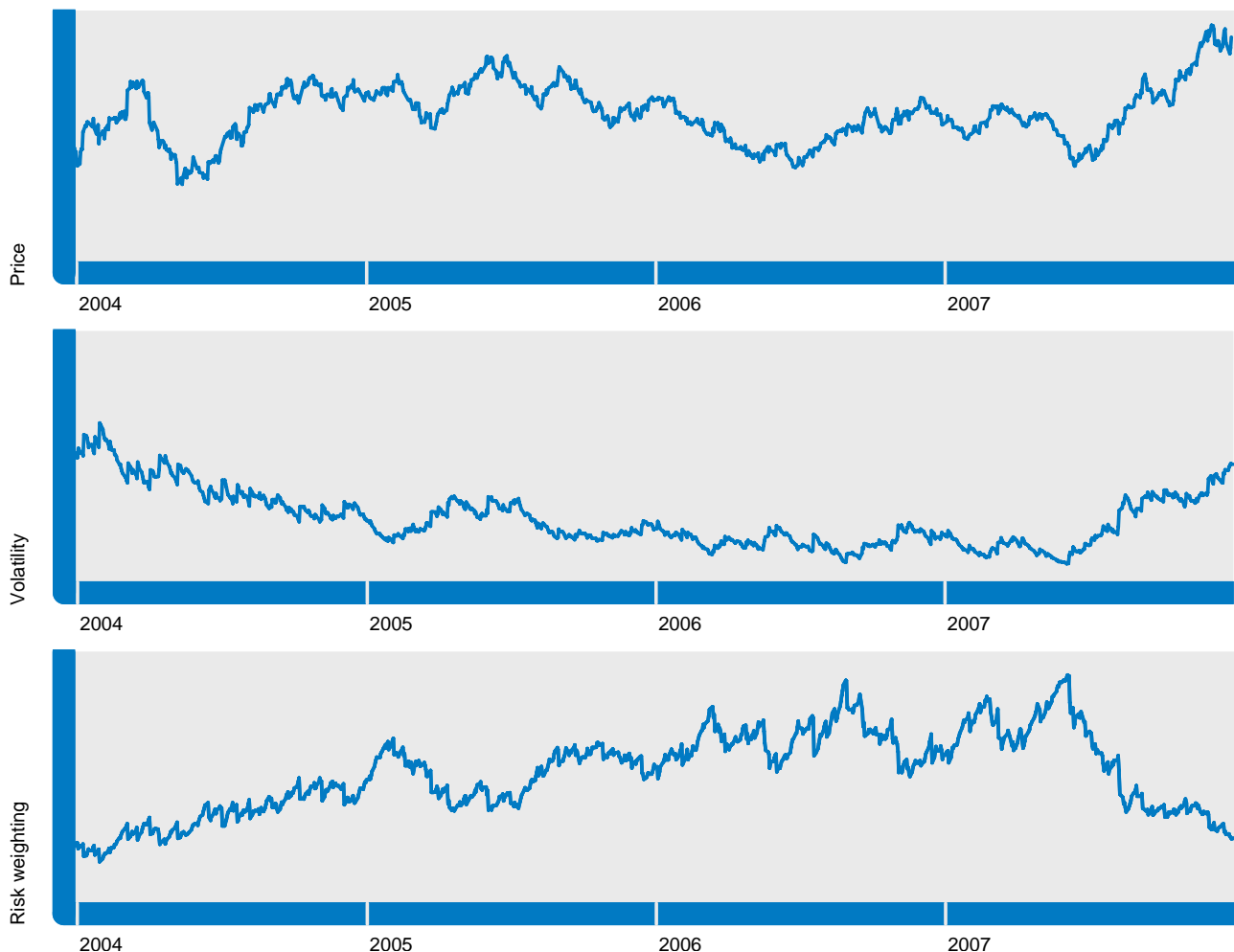
An increase in the level of correlation between markets can also increase risk exposure as this undermines the goal of diversification. Periodic reviews of correlations between markets and sectors can result in adjustments to allocations, particularly at a sector level.

As part of the asset allocation review process, return expectations are also considered, which involves analysis of long-term returns achieved in the different sectors and markets. The remaining factors influencing asset allocation are market access costs and liquidity. Just as they are able to support a greater number of trading systems, markets with lower access costs and greater liquidity can sustain higher allocations of capital.

AHL has a process for dynamically 'risk weighting' or adjusting its market risk exposure in real time to reflect changes in the volatility of individual markets. An increase in the volatility of a particular market means directional positions are exposed to greater risk. Therefore the risk weighting for a market decreases commensurately as the volatility increases. The AHL systems reduce capital exposure to more volatile markets by scaling back positions.

### Example of dynamic risk weighting US Treasury Note (CBOT)<sup>1</sup>

1 January 2004 to 31 December 2007



<sup>1</sup>Source of data: Man database. The illustration is based on simulated rather than actual positions and returns. It does not represent the actual performance we have achieved in this market.

All the systems applied by AHL are designed to target defined volatility levels rather than returns, and the investment process is underpinned by computer-supported analytical instruments and disciplined real time risk control and management information systems. As risk control is integral to each part of the AHL investment process, risk management consists primarily of monitoring risk measures and ensuring the systems remain within prescribed limits. The major risk monitoring measures and focus areas are:

- Value-at-Risk (VaR)
- stress testing
- implied volatility
- leverage
- margin-to-equity ratios
- net exposures to sectors and different currencies

A proprietary measurement method similar to the industry standard Value-at-Risk is the primary focus of the risk monitoring process. Backed by the other measures, VaR enables the AHL specialists to form a comprehensive picture of the risk any of the portfolios is running. VaR depends on the volatility of individual markets, the correlation between markets and the positions held. VaR is reviewed regularly and positions are scaled back whenever appropriate.

AHL conducts daily stress-testing to determine the robustness of its portfolios. Current market positions are applied to daily price data held for each market as far back as 1980. This enables the AHL team to develop a profile of the possible return extremes for each sector and portfolio based on current positions and historical daily price movements. Implied volatility is a useful forward-looking measure of potential risk that is analysed for each market, where available, in order to ascertain whether exposures may need to be reduced.

Leverage is monitored daily for the different AHL portfolios and a review is triggered if levels approach certain multiples of prevailing net asset value. Margin-to-equity ratios are also monitored daily. If initial-margin requirements relative to prevailing net asset value reach predefined levels, a review is undertaken which may result in a reduction in positions across the various markets.

## Investment infrastructure and trade execution

AHL is distinguished by the strength of its investment infrastructure. Investment in the latest cutting-edge computer technology is substantial, and the integrity of the AHL approach is ensured by adherence to a rigorous change control process. AHL also maintains a disaster recovery site where a back-up trading system runs permanently and in parallel with the main trading platform.

The trade execution team operates alongside the investment management team in London. It operates 24 hours a day on a rotational 8-hour shift structure. The traders execute deals on a non-discretionary basis except in instances where volume or liquidity constraints are a consideration and orders need to be placed carefully and tactically to avoid slippage. Typically though, orders are executed within three to five minutes of price sampling and the issuance of trade instructions. Market volume and liquidity are examined to ensure opening and closing positions can be executed with minimal slippage. Brokerage selection and trade execution are continually monitored to ensure optimum efficiency and the best quality market access. AHL maintains relationships with over 90 different brokers worldwide and business is awarded on the basis of performance.

Temporary slippage fluctuations in a particular market are normal and can occur as a result of variations in liquidity or execution quality. However, a sustained and significant increase in overall slippage across all markets is a warning sign that the weight of capital being placed behind trades cannot be sustained without degrading returns. Consequently, AHL monitors slippage closely in order to assess execution quality as well as gauge capacity, which is a crucial consideration for any alternative investment approach premised on the exploitation of a recurrent market inefficiency. Despite a steady increase in assets under management over the years, AHL has successfully contained overall slippage within a relatively tight band.

As assets under management have increased, AHL has been able to extend trading opportunities by taking advantage of the steady proliferation in futures markets and contracts, and by developing and diversifying its systems. For example the introduction of an order streaming process improved order placement and execution and has helped in managing slippage. AHL is able to draw on extensive slippage data, analysis and experience to determine capacity limits. The manager's assessment is that there is quite considerable headroom to manage greater assets, even discounting the potential for systems development and the addition of new markets to its portfolios.

AHL recognises that continual fine-tuning of the investment process is critical to maintaining a competitive edge. The manager also recognises that continuity of investment philosophy and methodology are imperative to success. Consequently, AHL adheres diligently to a defined change management procedure. Systems development and deployment takes place within a disciplined and methodical framework, and refinements to the investment process are carefully tested and monitored to ensure there is no deviation from the AHL investment philosophy and principles.

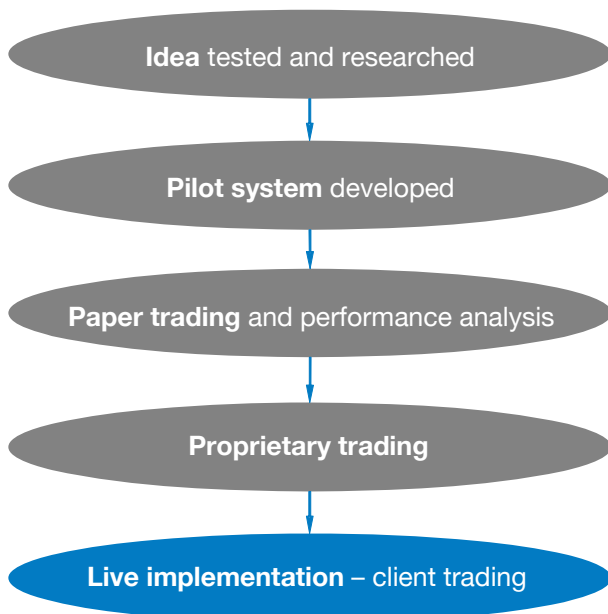
Enhancements to the investment process over the years include:

- the introduction of market volatility controls
- an increase in the number and diversity of markets traded
- the introduction of 24 hour trading
- the introduction of an order streaming process, discussed above
- system diversification

There are five key steps in the process of developing and incorporating new systems, and repeated testing, refinement and reversion to previous steps are integral to the entire process.

1. Ideas are researched and tested
2. A pilot system is developed
3. The pilot system is paper traded and performance is analysed (AHL maintains out-of-sample data purely for this purpose)
4. The system is traded using proprietary capital
5. The system goes live and is incorporated into the AHL programmes

#### Systems development and deployment



## The AHL team

The success of AHL over the years is attributable mainly to continuity of the investment philosophy and methodology, combined with continual enhancements to the disciplined investment process and strong infrastructure. Continuity in the investment team has been an important factor in helping sustain research and development initiatives.

The AHL team, as at 31 March 2008, comprises of 70 professionals, organised as follows:

- investment management and research: 40 people
- operations: 13 people
- trade execution: 17 people

AHL benefits by being part of Man Investments' substantial business and corporate infrastructure and from its strong financial standing. Man offers expertise in product and solution structuring, information technology, administration, logistics, compliance and legal functions, and client servicing through a worldwide network of offices and staff. Combined with AHL's investment management skills, these strengths help to create a powerful investment force.

## AHL's competitive advantage

- Consistent and stable investment principles and framework
- Outstanding long-term track record of absolute returns with controlled risk
- Strong and sophisticated research ethos underpins continual enhancement and refinements
- Robust, risk-averse trading and implementation infrastructure
- Strict change control process
- Continuity within the AHL team of investment specialists

### Important information

This material is not an invitation to make an investment in any of the products mentioned (the 'Companies') nor does it constitute an offer for sale of bonds/shares issued by the Companies. Applications for bonds/shares issued by the Companies will only be considered on the terms of the relevant prospectuses issued by the Companies. This material is communicated by Man Investments Limited which is authorised and regulated by the Financial Services Authority. Man Investments Limited and/or any of its associates may have an investment in the Companies mentioned. MF Global Ltd is the futures and foreign exchange broker to several of the Companies mentioned. Information contained herein is provided from the Man database except where otherwise stated. Potential investors should note that alternative investments can involve significant risks and the value of an investment may go down as well as up. There is no guarantee of trading performance and past or projected performance is not necessarily a guide to future results.

Important information for Canadian investment professionals: This material is offshore material that is provided for reference purposes only. The description of Companies in this document, or the performance thereof, should not be relied upon as such Companies may not be offered to Canadian investors or may significantly differ from the products available to Canadian investors. Any offering in Canada is made upon the terms and conditions of the applicable offering document of the Canadian product. This material is not a solicitation to invest nor should it be considered a public offer for sale.

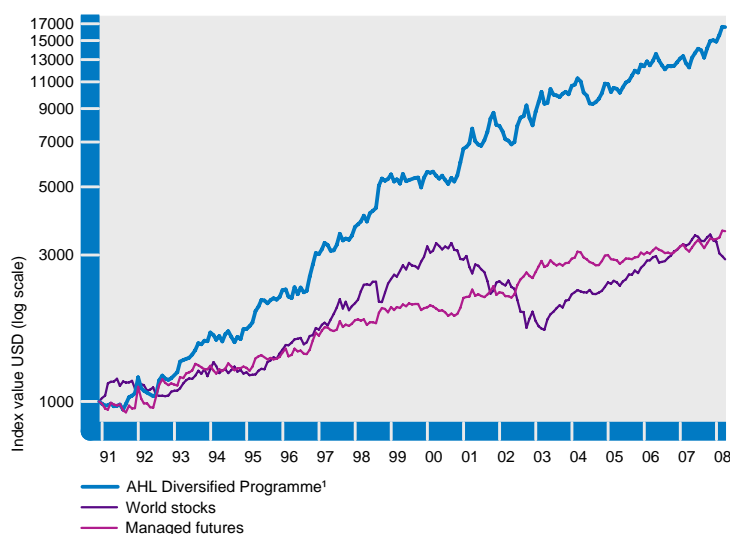
This material is not suitable for Hong Kong and US persons.

[www.maninvestments.com](http://www.maninvestments.com)

## Supplement: Performance

### Track record

20 December 1990 to 31 March 2008



	AHL Diversified Programme <sup>1</sup>	World stocks	Managed futures
Total return	1557.8 %	190.2 %	258.7 %
Annualised return	17.6 %	6.3 %	7.6 %
Annualised volatility	16.3 %	12.9 %	10.8 %
Sharpe ratio <sup>2</sup>	0.81	0.20	0.33
Worst drawdown	-21.1 %	-47.9 %	-14.5 %
Date of worst drawdown	Oct 01 to Apr 02	Aug 00 to Mar 03	Dec 91 to May 92
Months to recovery	5	49	2
Correlation to AHL Diversified Programme	1.00	-0.14	0.82

### Analysis

The AHL Diversified Programme has an outstanding long-term track record of achieving absolute returns with controlled risk in line with its investment objectives. The return target for the AHL Diversified Programme is higher than the majority of other hedge fund strategies, and its volatility is commensurate with this substantial medium-term growth target.

Investment objectives for the AHL Diversified Programme:

- target annualised return of 15-18% with a targeted annualised volatility of around 15% over the medium-term<sup>3</sup>
- exploit profit opportunities in both rising and falling markets
- minimise risk through diversification and a disciplined investment process
- low correlation with traditional asset classes over the long term
- enhancement for traditional portfolios

In common with many trend-following managed futures approaches, AHL experiences periods of strong performance when markets display clear trends. Whipsawing markets, short-term volatility and range-bound price activity are unfavourable. Importantly, the AHL programmes have shown they have an unusual advantage in generally being able to combine the strong surges with robustness and limited downside movement during difficult periods.

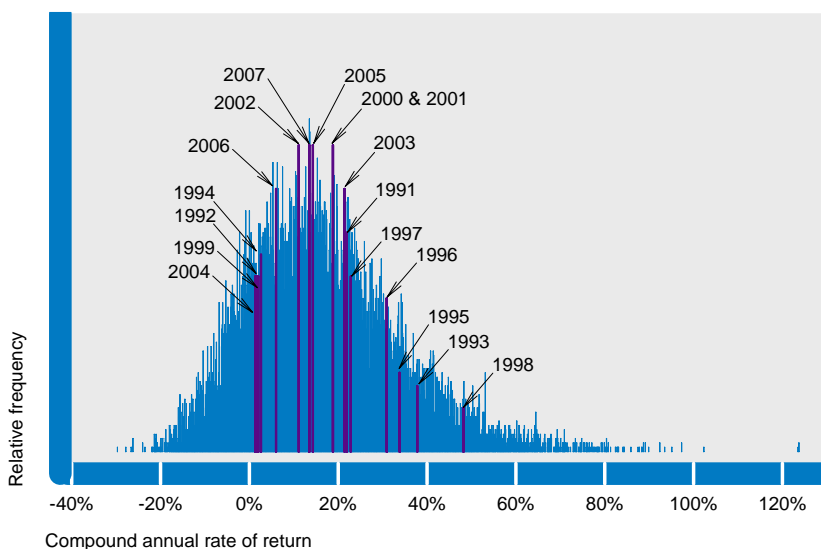
With our style of investment practice it is possible to be reasonably definitive about how much risk one chooses to run and to manage a portfolio in a disciplined way to achieve the target risk. It is also possible to achieve returns at the higher end of the performance range, although this obviously does mean having to run commensurately greater risk. Therefore the key indicator of success is how much return is gained for the risk taken. A Sharpe ratio of anything close to 1.00 is compelling, particularly for a track record stretching back well over a decade. It is also worth noting that on a risk-adjusted basis, as well as in terms of absolute returns, the AHL Diversified Programme has significantly outperformed world stocks.

The lack of correlation between the AHL Diversified Programme and world stocks is a key indicator of AHL's ability to exploit profit opportunities in both rising and falling markets and provide diversification away from traditional asset classes.

Source of data: Man database, Bloomberg and Stark & Co., Inc. World stocks: MSCI World Index hedged to USD. Managed futures: Stark 300 Trader Index. Please note that the Stark 300 Trader index data over the past 4 months may be subject to change. There is no guarantee of trading performance and past or projected performance is not a reliable indicator of future performance. Latest data available the time of production has been used. Returns may increase or decrease as a result of currency fluctuations. The performance data do not take account of the commissions and/or costs incurred on the issue and/or redemption of units. It is a requirement of MiFID to include performance statistics on a 12 month rolling basis. From 31 March 1991 to 31 March 2008, AHL Diversified Programme had a total return of 1556.4%, an annualised return of 17.6% and an annualised volatility of 16.3%. The Sharpe ratio for this period was 0.81. The worst drawdown, date of worst drawdown and the months to recovery were unchanged. <sup>1</sup>AHL Diversified Programme: represented by the performance of Athena Guaranteed Futures Limited (prior to 1 October 1997, actual trading results have been adjusted to reflect the current guaranteed public fee structure). <sup>2</sup>Sharpe ratio is calculated using the risk-free rate in the appropriate currency over the period analysed. Where an investment has underperformed the risk-free rate, the Sharpe ratio will be negative. Because the Sharpe ratio is an absolute measure of risk-adjusted return, negative Sharpe ratios are shown as N/A, as they can be misleading. <sup>3</sup>There is no guarantee of trading performance and projected/target performance is no indication of current or future performance/results. This is an appendix to the document 'AHL manager profile' and as such is incomplete without reference to this document and the important notes section therein.



### Probability distribution of AHL Diversified Programme<sup>1</sup> Monte Carlo analysis



Calendar year	Annual return
1991	21.9 %
1992	1.7 %
1993	37.8 %
1994	2.6 %
1995	33.8 %
1996	30.9 %
1997	22.8 %
1998	48.2 %
1999	2.0 %
2000	18.8 %
2001	18.8 %
2002	11.1 %
2003	21.4 %
2004	1.3 %
2005	14.3 %
2006	6.0 %
2007	13.5 %

- The longer the product life, the greater the probability of the return being within any given range around the mean

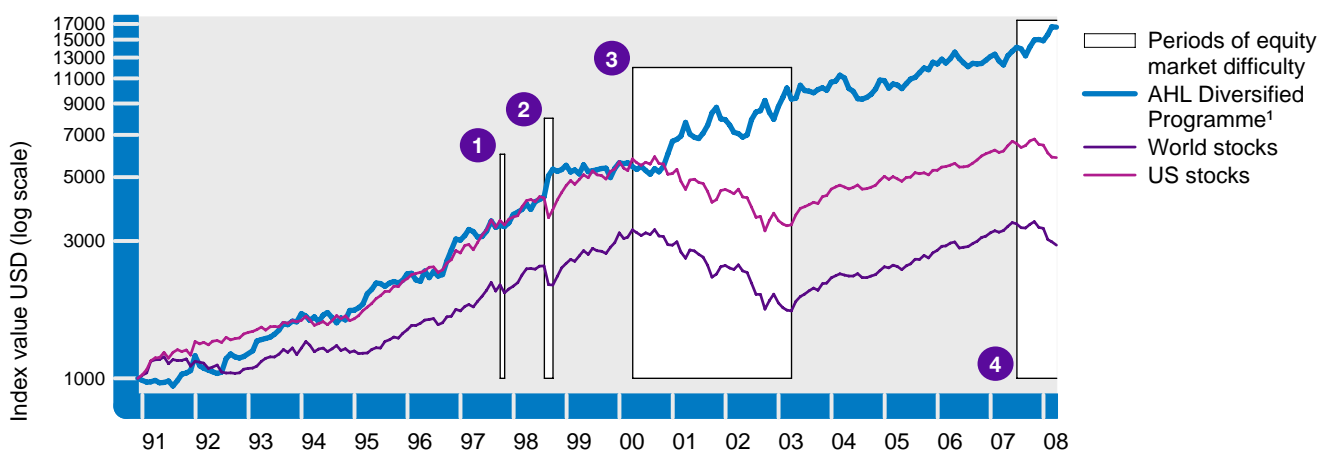
Annualised return<sup>1</sup> since inception: **17.6 %**

### Analysis

The actual annual returns for the AHL Diversified Programme have been variable from year to year, but all have fallen well within the expected probability distribution, which is derived using Monte Carlo modelling techniques. Furthermore, it is clear that the distribution of actual annual returns for the AHL Diversified Programme is positively skewed.

### Performance during difficult equity market conditions

20 December 1990 to 31 March 2008



Total return over the period	AHL Diversified Programme <sup>1</sup>	World stocks	US stocks
<b>1 Asian crisis</b> 1 October 1997 to 31 October 1997	-0.9 %	-6.2 %	-3.3 %
<b>2 Russian crisis and LTCM difficulty</b> 1 August 1998 to 30 September 1998	24.8 %	-14.2 %	-9.0 %
<b>3 Equity bear market</b> 1 April 2000 to 31 March 2003	71.5 %	-47.8 %	-40.9 %
<b>4 Subprime crisis</b> 1 July 2007 to date	17.5 %	-15.6 %	-10.7 %

The periods selected are exceptional and these results do not reflect typical performance. As a consequence, they give no indication of likely performance.

Source of data: Man database and Bloomberg. World stocks: MSCI World Index hedged to USD. US stocks: S&P 500 Total Return Index (dividends reinvested). There is no guarantee of trading performance and past or projected performance is not a reliable indicator of future performance. Latest data available at the time of production has been used. Returns may increase or decrease as a result of currency fluctuations. It is a requirement of MiFID to include performance statistics on a 12 month rolling basis. From 31 March 1991 to 31 March 2008, AHL Diversified Programme had an annualised return of 18.1%. The performance data do not take account of the commissions and/or costs incurred on the issue and/or redemption of units. The Monte Carlo featured above is based on a proprietary model developed at Man Investments, which works by randomly simulating gross monthly returns for a manager/style. These are then combined to construct a possible random path that the NAV of a portfolio might take over the specified periods shown above, taking into account appropriate fees and interest, etc. This is repeated many thousands of times so that at the end it is possible to analyse simulated distributions of product level return, as illustrated. 'AHL Diversified Programme' represented by the performance of Athena Guaranteed Futures Limited from 20 December 1990 to 31 March 2008 (prior to 1 October 1997, actual trading results have been adjusted to reflect the current guaranteed public fee structure). This is an appendix to the document 'AHL manager profile' and as such is incomplete without reference to this document and the important notes section therein.



## Supplement: Biographies of the key investment management specialists

**Tim Wong** is the CEO of AHL. He is also a member of the Man Global Strategies investment committee and is on the Man Investments management committee. Mr Wong joined AHL in 1991 as a research analyst, and later assumed overall responsibility for the day-to-day running of the research and investment management operations. Mr Wong graduated from Oxford University in 1991 with a first class honours degree in engineering science. He subsequently gained an MSc in statistics and operational research from London University. He is an associate of the UK Society of Investment Professionals.

**Andy Hutton** is head of trading operations for AHL. Prior to transferring to Man Investments in 1996 to run the 24-hour trading desk, Mr Hutton joined the cocoa division of Man in 1990. In 1978, he joined Gill and Duffus Limited in the forward accounts department and later the terminal market operations department where he was involved in all aspects of futures operations and later also managed the compliance functions. Mr Hutton has been employed within the futures industry since 1977, starting with Marshall French and Lucas Limited.

**Andrew Sinclair** is the head of non-directional strategies research for AHL, focusing on the application of statistical techniques to the modelling and prediction of financial instruments in the development of trading systems. Mr Sinclair joined the AHL research and investment management team in 1996. Mr Sinclair holds a BA in mathematics from Trinity Hall, Cambridge, and an MSc in applied statistics from Oxford University.

**Mike Robinson** is head of directional strategies research. He specialises in modelling financial markets in order to develop directional trading systems and has further experience in portfolio construction and risk analysis. He joined the AHL investment management team in 1999, prior to which he held a post-doctoral position in statistics at the University of Surrey. Dr Robinson received his PhD in extreme value statistics from Lancaster University in 1997.

**Anthony Ledford** is director of research in the Man Research Laboratory (Oxford) and focuses on electronic trading systems development and market microstructure modelling. Prior to joining the AHL investment management team in 2001, he lectured in statistics at the University of Surrey. Dr Ledford studied mathematics at Cambridge University and holds a PhD from Lancaster University in the development and application of multivariate extreme value methods.

**Tim Hoggard** is director of the Man Research Laboratory (Oxford) focussing on research into the application of computer science to quantitative investment strategies and developing the relationship with Oxford University. He joined AHL in 1992 as a quant with responsibility for special projects and subsequently has held a number of senior management positions in Man Investments. He graduated from Manchester University with a first class honours in mathematics and computer science in 1979. He holds a PhD in numerical analysis from the same university and an MSc in financial economics from Birkbeck College, London University. Dr Hoggard is a Chartered Engineer.

**Steffan Berridge** is heading up the AHL portfolio management team, and has specialised in portfolio construction and risk measurement since he joined AHL in 2004. Prior to this he completed a masters degree in financial mathematics at Victoria University of Wellington, New Zealand and a PhD degree in mathematical finance at Tilburg University, The Netherlands with a thesis on numerical methods for the pricing of high-dimensional American options.

**Riju Sathyan** is the Chief Operations Officer for AHL with principal responsibility for trade and risk monitoring, data management and the implementation of changes to the trading system. Prior to joining AHL in 2003, Mr Sathyan was the head of State Street Analytics-UK for 6 years, where he managed departments in London and Edinburgh to provide portfolio and fund investment analysis to State Street's institutional and private clients based in the UK, Scandinavia, Middle East and South Africa. He began his career at Legal & General, where he worked within insurance & pensions actuarial services. He has a BSc in banking & international finance from City University, London.

**Andre Rzym** is a senior quantitative analyst for AHL. He is responsible for the application of AHL's trend following systems to new instruments and for developing new systematic strategies. Prior to joining Man Investments in early 2004, Mr Rzym spent many years trading interest rate, credit, emerging markets and exotic products. Mr Rzym received his BA/MA in Natural Sciences from Cambridge University.

**Den Pilsworth** is head of technology for AHL and is responsible for the development and delivery of trading systems and providing AHL's technical platform. Prior to joining AHL in 2007, Mr Pilsworth was a foreign exchange automated trading strategist at JP Morgan. He has also led electronic trading systems development efforts across a number of investment banks and consultancies. Mr Pilsworth graduated from Southampton University in 1988 with an honours degree in electronic engineering, and gained a Masters in Finance from London Business School in 2000.

**Harry Skaliotis** is an investment manager with AHL. Prior to joining AHL in 2005, Mr Skaliotis was involved in equity portfolio construction at JPMorgan Fleming Asset Management. He has a BSc in economics, accounting & finance from the London School of Economics, and an MPhil in finance from Cambridge University. Mr Skaliotis is a CFA charterholder.