

Hedge Funds - People and Strategies

A quick historical tour

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(DRAFT)

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Introduction

The objective of these few pages is to present a few profiles of hedge fund industry pioneers and through these profiles to understand the strategies that have been developed and the market opportunities that have been looked after. A lot of information is taken from Sebastian Mallaby's book "More money than God".

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Chapitre 1

A few portraits

1.1 1949 - Alfred Winslow Jones (1900-1989)

In 1949, Alfred Winslow Jones founded the first hedge fund and is regarded as the "father of the hedge fund industry". He is the one who coined the term "hedged fund" in a 1966 Fortune interview.

He graduated from Harvard University in 1923 and after various non-financial jobs got a **doctorate in sociology** at Columbia University in 1941. He started his hedge fund after investigating technical methods of market analysis for an article titled "Fashions in Forecasting", in Forbes magazine in March 1949.

He **dismissed fundamental analysis** for stock valuation, observing that stock markets often move without any economic data news or commodity price changes. He believed more in predictable patterns linked to **investor psychology** and **feedback loop** (like Soros later). The trick being to identify when psychology turns around.

Example of feedback loop : A rise in the stock market generates investor optimism, which in turn generates a further rise in the market, which generates further optimism, and so on, creating an upward trend that can be followed profitably.

He put in practice many quant technics before they became academic topics.

He initiated the idea of **long/short strategies** using **leverage**. The stock selection and risk assessment were done by analysing the performance and the **betas** of the stocks relatively to the Standard & Poor's 500, resulting in a portfolio with positive expected return and no exposure to the index. Therefore, the strategy is very linked to the Sharpe Lintner's "**Security Market Line**" approach of 1963, but was traded by Jones a decade earlier. Note that, when **Markowitz** published in 1952 his paper on optimal portfolios at the age of 25 it appeared as purely theoretical, as calculating 25 by 25 correlation matrices and their inverse at this time was too computationally intensive, and the method of Sharpe Lintner was seen as the only simplified tractable approach (as based only on diagonal matrices calculations). Jones also invested according to the principles of Nobel price James Tobin's "**Separation Theorem**" of 1958, years before the theory was published, by proceeding in two stages : first identifying the most efficient risky portfolio and second building its investment portfolio by leveraging to the desired risk level. Jones's next innovation was to distinguish between the money made through stock picking and the money made through an exposure to the market, thus creating the notion of "**alpha**" and "**beta**". Jones was also a precursor of **factor analysis** by studying how some factors, defined as trends or volatilities, behave in certain markets and can be exploited to generate returns.

Jones also created a **remuneration structure** (2% fees plus 20% of the profits) which later became a benchmark, as well as a **favourable tax treatment** allowing the 20% participation to the profits to be taxed as capital gains instead of income (25% rate, instead of at 90% at this time).

Also, Jones managed to be exempted from the obligation to register under the Securities Act of 1933, the Investment Company Act of 1940, and the Investment Advisors Act of 1940, arguing that none of these laws could apply to his funds because they were "private". This argument enabled him, and all those who followed, **to be exonerated from many registrations and associated disclosure constraints**.

According to a 1966 Fortune article, Jones's fund gained 670% in the preceding 10 years, compared with a 358% gain for the leading mutual fund of the period. This attracted the attention of investors and within the next three years at least 130 hedge funds were started.

A few specific references :

1. <https://www.businessinsider.com/alfred-winslow-jones-started-the-first-hedge-fund-2016-8?IR=T>
2. <https://fortune.com/2015/12/29/hedge-funds-fortune-1966/>
3. <https://fotst.org/wp-content/uploads/2015/01/Fortune-Magazine-Alfred-Winslow-Jones.pdf>
4. https://en.wikipedia.org/wiki/Alfred_Winslow_Jones

1.2 1957 - Warren Buffet (1930-)

Fund : Berkshire Hathaway

Bio :

- ◇ 1947 BA started at Wharton and finished at the University of Nebraska
- ◇ 1949 Columbia business school where he graduates and meet **Benjamin Graham, the father of value investing**. Starts different ventures and at some point is hired by Benjamin Graham in the Graham-Newman partnership, which returned 20% p.a over 1936-1956 (while the market did 12.2% p.a over the same period)
- ◇ 1957 creates Buffet Partnership which later acquired Berkshire Hathaway
- ◇ 1970 Chairman and largest shareholder of Berkshire Hathaway since that time

Strategies : **Value investing**, based on the principles of Benjamin Graham even if he adapted them. Buffett saying in a 1988 interview with journalist Carol Loomis for Fortune, "Boy, if I had listened only to Ben, would I ever be a lot poorer". **Buy and hold**. Top Buffett stocks tend to be **dividend growers** like Coca Cola which has grown dividends for 57 years in a row. Tend to buy only the stocks he "knows" and the business he "understands".

Notable Trades :

- 1972 purchases Sees candy from Sees family for \$25 million. Today valued at \$1.35 billion.
- 1987 purchased 7% of Coca-Cola for \$1.02 billion. This remains Warren Buffett's most lucrative purchase till date.
- late buyer of tech stocks. Buying for the first time Apple shares in Q1 2016 and Amazon stocks in Q1 2019.

Remarks : In recent years Berkshire Hathaway, as well as many value funds, have underperformed the S&P 500 and the principles of these funds are sometimes seen as a little

outdated especially with the current domination of the tech universe in which fundamental analysis is less centric.

Net worth 2020 : \$ 85.6bn

A few specific references :

1. <https://www.investors.com/research/warren-buffett-stocks/>
2. <https://www.gurufocus.com/guru/warren+buffett/stock-picks>
3. <https://www.simplysafedividends.com/intelligent-income/posts/37-top-10-pieces-of-investment-advice-from-warren-buffett>

1.3 1967 - Mickael Steinhdart (1940-)

Fund : Steinhardt Partners

Bio :

- ✧ at 19 graduates from University of Pennsylvania
- ✧ at 25 self-describes himself as the "hottest analyst on Wall Street".
- ✧ 1967 at 27 founds Steinhardt Partners
- ✧ 1995 closes Steinhardt Partners
- ✧ 2004 comeback to head WisdomTree Investments (AUM \$64 billion), which offers dividend and earnings-based index funds.

Strategies : **Contrarian** (or "variant" according to his own words) who pioneered the application of **monetary and inflation analysis** (with the hire of Ciluffo who was tracking the lending capacity of large banks as reported by the Federal Reserve), and then **block execution** king.

Notable trades :

- in the 1960s the markets transforms from retail to institutional and big block trades appear. They represent 5% of the transactions on the NYSE in 1965 and 15% in 1970. Steinhdard Partners has a **competitive advantage** compared to the 3 other big players (GS, Salomon, Oppenheimer) as they do not have to disclose the trades they execute, because they are not a member of the stock exchange. This puts them in a self-reinforcing dominant position in the markets. Also, it seems they benefited, in this position, from privileged profitable information. As reported by Mallaby in his book Steinhdart admitted "I got information I shouldn't have. It created a lot of opportunities for us. Were they risky? Yes. Was I willing to do it? Yes. Were they talked about much? Not particularly".
- in 1969 and 1970 and again in 1973 and 1974 **is short when the markets drop** (returning 12% and 28%) and refuse to return the shares he has borrowed for shorting

(as he is not legally obliged to do so). Is then seen as villain arrogant and greedy. "That was, for me, the height of professional satisfaction" declares Steinhart in Mallaby's book.

Annualized return for its clients of 24.5% from 1967 to 1995. During 28 years had losses only 4 years (his fund lost 1/3 of its value in the 1994 bond market crisis). In 1995, after finishing up 25%, he closed his fund.

Net worth 2018 (Forbes Magazine) : \$1.1 billion.

A few specific references :

1. <https://charlierose.com/videos/1540>
2. Michael Steinhart. (2004). *No Bull : My Life In and Out of Markets*, Wiley ; 1st edition, pp 304.
3. https://en.wikipedia.org/wiki/Michael_Steinhart

1.4 1969 - Georges Soros (1930-)

Fund : Quantum Fund

Bio :

- ✧ 1951 BA London School of Economics
- ✧ 1954 Master of Science - initially want to become an "independent Philosopher"
- ✧ 1954 merchant bank Singer & Friedlander of London
- ✧ 1956 brokerage house, F.M. Mayer of New York as an arbitrage trader until specialising in European stocks
- ✧ 1969 starts "Double Eagle", renamed Quantum Fund in 1970 with \$12m
- ✧ 1988-2000 manages the Quantum fund on and off with Stanley Druckenmiller
- ✧ 2020 has a net worth of \$8.3 billion after having given away \$32bn to the Open Society Foundations.

Strategies : **Macro**, based on monetary policy. Combine fundamental analysis with the belief in trends. Has a theory of self-reinforcement /**reflexivity** according to which ideas and events influence each other in **reflexive feedback loops**, in contrast to the equilibrium theory. Influenced by science philosopher Karl Popper.

Between 1973 and 2013, the Quantum Fund generated \$40 billion. From Mallaby's book "Soros saw no point in knowing everything about a few stocks in the hope of anticipating small moves ; the game was **to know a little about a lot of things**, so that you could spot the places where the big wave might be coming". Got some valuable information about monetary policy through **direct access to central bankers and government officials**. Generally, made money when he played against the central banks lost when he tried to help. Speak five languages. In July 2011, because of a change in SEC disclosure rules, returns funds from outside investors and only keep in the fund \$24.5 billion of his own money. This enables

him to convert the fund into a **family office**, which therefore does not have to be registered with the SEC. The fund at that time has generated over 20% per year since inception.

Notable trades :

- 1992 Black Wednesday UK currency crisis - his short position in GBP worth \$10 billion generates a profit of \$1 billion for Quantum. He becomes "The Man Who Broke the Bank of England".
- 1997 - did not anticipate the crash, thinking that it would come from Asia first. Was unable to sell his large positions quickly enough. Quantum dropped from +60% to -10% for this year.
- 2007 - Soros disagrees with the non-bearish consensus and returns to investing to make 32% return in 2007.
- 2016 - play a fall in the markets after Donald Trump's election and loses in the coming weeks \$1bn.

A few specific references :

1. <https://www.alumneye.fr/zoom-sur-georges-soros/>
2. <https://www.c-span.org/video/?282391-2/hedge-fund-regulation-fund-managers-panel>
3. https://en.wikipedia.org/wiki/George_Soros

1.5 1975 - Ray Dialo (1949-)

Fund : Bridgewater Associates with the "Pure Alpha" and the "All Weather" funds.

Bio :

- ✧ 1962 Starts buying shares at 12
- ✧ 1970 launches Bridgewater Associates with a few friends to trade commodities
- ✧ 1973 MBA Harvard Business School
- ✧ 1973 starts on the floor of the Stock Exchange to trade commodity futures
- ✧ 1975 re-start Bridgewater Associates as a wealth advisory firm in his two bedroom apartment to advise on currencies and interest rates
- ✧ 1981 Bridgewater Associates open in Connecticut
- ✧ 1989 launches the "Pure Alpha fund" which includes 30 or 40 simultaneous trading positions in bonds, currencies, stock indexes and commodities
- ✧ 1996 launch of the "All Weather fund"
- ✧ 2005 Bridgewater Associates becomes the world's largest hedge fund
- ✧ 2006 the "Pure Alpha" fund is closed to new investors
- ✧ 2011 launches the "Pure Alpha Major Markets fund"

Strategies : **Global macro investor** who makes his investment based on his views about the economy and also with the help of computer models and algorithms. Tries to detect bubbles and mispricing based on his views on "how the economic machine works" and his understanding of credit and monetary policy. Has developed a **bubble indicator** that he publishes. Has pioneered the concept of **risk parity** to better allocate risk between asset classes. Goes away from the traditional mix between bonds and equities of the typical pension fund allocation to **allocate between additional asset classes** such as commodities, Gold, FX. Changes dynamically the weights based on the environment, doesn't adhere to the "buy and hold" idea.

Notable trades : In 2007, Dalio became famous for predicting the global financial crisis and the firm's flagship Pure Alpha fund rose in value by 9.5% after accounting for fees

Net worth (as of Jan. 13, 2021) : \$16.9 billion,

A few specific references :

1. <https://www.youtube.com/watch?v=PHe0bXAIuk0>
2. <https://www.flowbank.com/en/research/what-is-ray-dalios-investing-strategy-and-why-isnt-it-working>
3. <https://www.newtraderu.com/2019/10/04/ray-dalio-price-action-trading-quotes/>
4. <https://www.gurufocus.com/guru/ray+dalio/profile>
5. <https://www.businessinsider.fr/us/ray-dalio-bridgewater-market-indicator-most-us-stocks-not-bubble-2021-2>
6. <http://www.lazyportfolioetf.com/allocation/ray-dalio-all-weather/>
7. https://en.wikipedia.org/wiki/Bridgewater_Associates

1.6 1980 - Paul Tudor Jones (1954-)

Fund : Tudor Investment Corporation

Bio :

- ◇ 1976 BA in economics from the University of Virginia
- ◇ 1976 becomes a commodities broker
- ◇ 1980 founds Tudor Investment Corporation, seeded by **Commodities Corporation** (who founded as well **Louis Bacon**)

Strategies : initially **technical analysis**, as opposed to fundamental analysis. Used his experience in trading cotton and **analysing trends and charts** to trade other commodities and financial instruments such as stock-index contracts and currency futures. **Contrarian** who attempts to buy and sell turning points based primarily on technical analysis but is opened to any method which is profitable. Jones's early skills was to see how private traders were positioned and **to bluff the market** and anticipate the reaction of other market participants. He made the book of **Georges Soros, "The Alchemy of Finance"**, required reading among his employees.

Notable Trades :

- ◇ 1987 Black Monday - with Peter Borish, second-in command, anticipated the crash of 1987 by mapping the 1987 market against the market preceding the 1929 crash (even in Borish admitted later massaging the data). Tripled his money and earned an estimated \$100 million
- ◇ 1990 - During the Japanese stock market crash, returned 87.4 percent through shorting the market. Tudor transforms itself into a **multi portfolio platform**
- ◇ 1995 - gets into **computer trading**, following human-based rules, of illogical prices with the hire of Sushil Wadhvani, an economist from Goldman Sachs, who left in 1999.

- ✧ 2000s - fewer big interest-rate and currency moves as central banks kept short-term rates near zero and hedge fund competition has expanded.
- ✧ 2008 - the emerging-market portfolio loses around two thirds of its value, costing Tudor over \$1 billion. At this time there were 50 people working on computerised trading and managing \$3bn of the \$17bn capital but with rentability fading with competition trading on the same ideas.

Nowadays : As a multi portfolio platform the investment strategies of the Tudor Group now include, amongst others : quantitative global macro (managed futures), equity long/-short, equity market neutral and growth equity. It seems that Tudor has also invested recently in several **artificial-intelligence** powered quantitative hedge funds.

Net worth 2019 (Forbes Magazine) : \$5.3 billion

A few references :

1. <https://www.youtube.com/watch?v=Pz5JUt9IKPM>
2. <https://www.trendfollowing.com/paul-tudor-jones/>
3. <https://www.tradingwithrayner.com/paul-tudor-jones-21-trading-rules-that-have-stood-the-test-of-time/>
4. <https://www.afr.com/politics/quotron-man-19880520-k2sh5>
5. <https://www.ft.com/content/59358ff6-3cd9-11e7-ac89-b01cc67cfeec>
6. https://en.wikipedia.org/wiki/Paul_Tudor_Jones

1.7 1980 - Julian Robertson (1932-)

Fund : Tiger Management

Bio :

- ◇ 1955 graduates from University of North Carolina
- ◇ 1957 US navy officer
- ◇ 1957 stockbroker then head of asset management at Kidder, Peabody & Co
- ◇ 1978 move to New Zealand to write a novel (he did not finish)
- ◇ 1980 launches Tiger Management with \$8 million of capital
- ◇ 2000 money returned to outside investors, after managing \$22 billion in 1998

Strategies : **Stock picking, long/short equity, carry trades**. Principle that an edge can be developed in whatever style you like. Started **multi-strategy funds**.

Over the twenty-one calendar years 1980-2000 the fund was up in seventeen of them. After 2000 Robertson seeded many hedge fund managers (against a portion of their capital). There are 50 **Tiger Seeds** amongst the world's top hedge funds in 2020. Additionally many famous hedge funds have been set up by ex-Tiger employees (the "**Tiger Cubs**") proving that whatever the source of Robertson's investment edge was, it was profitable - and transferable, even if sometimes this resulted in creating some crowded trades thus reducing the profitability and creating a systemic risk. A story not ending well of Tiger Seeds (after some great successes) is Archegos, the fund of Bill Hwang. It started with \$23m of seed money from Tiger to reach \$ 22bn of capital and was finally liquidated in 2021 after a \$22bn margin call on extremely leveraged long tech stock positions.

Example of carry trades : around 1985 Robertson bought Australian and New Zealand bonds with interest rates ranging from 16 percent to 24 percent, financing the positions in countries whose interest rates were less than 10 percent and earning at the end the spread

without negative FX effect.

Biggest mistakes :

- October 1998 - victim of some collateral effects in an interconnected world. Lost money on a large bet that the yen would fall against the dollar. At this time traders were borrowing the Japanese currency to finance their positions around the world; when they dumped those positions, because of the 1998 Emerging Markets crisis, and paid the borrowed yen back, the yen went up against the dollar.
- March 2000 - big bet going wrong - big equity holding in US Airways which goes bankrupt in 2002

Net Worth 2020 (Forbes) : \$ 4.4 bn

A few specific references :

1. <https://charlierose.com/videos/1583>
2. https://en.wikipedia.org/wiki/Julian_Robertson

1.8 1988 - Jim Simons (1938-)

Fund : Renaissance Technologies, Medallion fund

Bio :

- ✧ 1958 BA MIT,
- ✧ 1961 PhD Berkeley,
- ✧ 1964 NSA as a code breaker
- ✧ 1968-1978 Professor Stony Brook University,
- ✧ 1976 Oswald Veblen Prize in Geometry
- ✧ 1988 founds Renaissance Technology and Medallion, which is closed to outside investors

Strategy : **Mostly short term**. Assumably, found that some patterns that worked in American commodities markets often worked in foreign markets too. After some setbacks, applied these technics to the equity markets too. Brown and Mercer, two computational linguistics from IBM Research, joined Renaissance in 1993. They approach problems in a manner that make sense for a computer instead of trying to implement human based rules. In Mallaby's book they say that : "it is the **nonintuitive signals** that often prove the most lucrative for Renaissance" and that "signals that we have been trading without interruption for fifteen years make no sense, otherwise someone else would have found them".

The Medallion Fund has a capacity limited to \$8bn but generated \$100bn in trading profits between 1988 and 2018. The other funds for external investors are based on other more liquid longer-term strategies and according to Simons : "traded on signals that were understood by others ; everyone had read the same academic papers, had looked at the same data, and was making the same types of bets, especially on stocks with momentum and value".

Only one public controversy dating from 2014 based on execution strategies using basket of options, "disguising" short term taxable profits as long term profits. So, maybe the

engineering at Renaissance goes beyond/aside pure pattern detection algorithms.

Net worth : approx \$23.5 billion

A few specific references :

1. <https://www.youtube.com/watch?v=U5kIdtMJGc8>
2. <https://www.bloombergquint.com/markets/irs-decision-is-bad-omen-for-rentech-tax-dispute-worth-billions>
3. <https://www.youtube.com/watch?v=U5kIdtMJGc8>
4. [https://en.wikipedia.org/wiki/Jim_Simons_\(mathematician\)](https://en.wikipedia.org/wiki/Jim_Simons_(mathematician))

1.9 1994 - John Meriwether (1947-)

Fund : LTCM

Bio :

- ✧ BA Northwestern university
- ✧ MBA University of Chicago Booth School of Business
- ✧ Bond trader Salomon Brothers becomes Head of domestic fixed income arbitrage group
- ✧ 1988 Vice Chairman Salomon Brothers
- ✧ 1994 launches Long Term Capital Management
- ✧ 1997 LTCM has to be terminated
- ✧ 1997 launches JWM Partners LLC
- ✧ 2009 JWM Partners LLC has to be terminated
- ✧ 2010 launches JM Advisors Management

Strategies : Play what is seen as very safe **arbitrages, convergence trades**, with small spreads with a **lot of leverage**. Sell some **far tail risk**. Believes that diversification will keep the risk resulting from the high leverage under control.

Performances : 1994 : 20%, 1995 : 43%. 1996 : 41% 1997 : 17%

LTCM was founded by John Meriwether along with Nobel-prize Myron Scholes and Robert Merton (who were consultant at Salomon) and David Mullins VP of the Federal Reserve, with \$1 billion in capital, which was a record at this time for a hedge fund at launch. In 1998, LTCM had approximately \$5 billion in capital (with \$1.9bn belonging to its partners) with leveraged positions of \$1,200 billions, representing the PNB of France at this time. In September 1998, the fund, which was suffering losses held huge positions, totalling roughly 5% of the total global fixed-income market, and was bailed out with the help of the Federal Reserve. 14 banks and brokerage firms injected \$3.6 billion in exchange

for 90% of the fund, allowing Meriwether and associates to retain 10% of the fund still worth about \$400 million at this time, but worth zero at the time of total unwind. Each bank eventually invested \$100 to \$350 million. Bear Sterns, which later went bankrupt, was the only bank to refuse to participate.

Amongst the trading strategies used :

- ✧ Initially, trades between on-the-run and off-the run US bonds
- ✧ 1997 see less opportunities in the bond market and start trading equities. Believe in mathematical arbitrages when almost identical securities are valued differently or when a normal relationship between stock prices has broken, presumably temporarily.
 - Example 1 : Pair trading between parent and subsidiary, like selling Royal Dutch Petroleum and buying Shell Transport, or long/short between the stocks of the same company on two different exchanges.
 - Example 2 : Risk Arbitrage, playing a convergence in prices, based on the acceptance of an M&A offer, like the cash offer on Citicorp by Travelers Group
- ✧ 1997 sell both out of the money put and call options trading at a very high volatility expecting they would never finish in the money.
- ✧ Macro trades
 - Example : playing the narrowing of the spread between Italy and Germany with the euro to be created.

Post mortem (from wikipedia) :

The total losses were found to be \$4.6 billion with a repartition as follows :

- \$1.6 bn in swaps
- \$1.3 bn in equity volatility trades
- \$430 mn in Russia and other emerging markets
- \$371 mn in directional trades in developed countries
- \$286 mn in Dual-listed company pairs (such as VW, Shell)

- \$215 mn in yield curve arbitrage
- \$203 mn in S&P 500 stocks
- \$100 mn in junk bond arbitrage

JWM Partners was launched to continue many of LTCM's strategies but this time with less leverage. With the 2008 credit crisis, JWM Partners lost 44% loss from September 2007 to February 2009 and was shut down in July 2009. Meriwether then launched a third hedge fund in 2010 called JM Advisors Management which is still in existence in 2021.

Net worth 2020 : \$ 100 million

A few specific references :

1. https://en.wikipedia.org/wiki/John_Meriwether
2. <https://contextisking.com/2020/11/22/the-case-of-long-term-capital-management/>
3. <https://www.youtube.com/watch?v=i5KfP293MVQ>

1.10 1990 - Kenneth C. Griffin (1968-)

Fund : Citadel

Bio :

- ✧ 1986 enters Harvard, starts investing after finding what he believed were inefficiencies in the convertible bonds market
- ✧ 1987 while still a student at Harvard launches his first (small fund) and makes money during the stock market crash of October 1987
- ✧ 1989 graduates from Harvard with a degree in economics
- ✧ 1990 founds Citadel with \$4.6 million of capital
- ✧ 1998 Citadel has grown to 100 employees and \$1 billion in capital.
- ✧ 2001 creates Citadel Securities
- ✧ 2020 Citadel manages \$35 billion and Citadel Securities manages two out of every five stock trades in the USA.

Strategies :

Multi strategies, repurchasing books at a discount when they have to be liquidated. Pricing more quickly than the competition due to the **quality of the infrastructure**. According to Mallaby's book got the reputation for "buying the corpses out of car wrecks".

Notable trades :

- Sep 2006 - Buy Amaranth's portfolio, a hedge fund in distress with a very large position on gas contracts. The moment Citadel and J.P. Morgan take ownership, and the risk of forced sale disappears, the value starts to come back. Citadel makes a profit of about \$1 billion from the transaction. Citadel wins this purchase because of its **ability to onboard trades and to take decisions quickly**.
- Jul 2007 - Buy Sowood's portfolio, a hedge fund seeded by Harvard Management company which has lost 50% of its capital in the credit market and has to liquidate its

positions. According to Jeff Larson from Sowood "Citadel offered the only immediate and comprehensive solution". Citadel made huge profits when the markets recovered.

- Sep 2007 - Citadel had built up a giant portfolio of convertible bonds, which it hedged by shorting stocks : The ban on short selling by the SEC made it impossible to hedge convertible positions, so by the end of September, Citadel's fund was down 20% for the month. Because Citadel had locked up long-term funding and had issued 5 year bonds, it was able to reassure creditors and survive the crisis without any Fed lending.

Net worth 2021 : \$ 16bn

A few specific references :

1. <https://www.youtube.com/watch?v=xhUipXkP-6A>
2. <https://www.reuters.com/article/us-hedgefunds-sowood-idUSN3023453720070730>
3. <https://www.fnlonon.com/articles/citadel-benefits-from-sowoods-collapse-20070731>
4. <https://www.cnbc.com/2021/02/18/citadels-ken-griffin-defends-controversial-wall-street-practice-says-firm-would-adapt-if-it-were-outlawed.html>

1.11 1997 - Cliff Asness (1966-)

Fund : Applied Quantitative Research

Bio :

- ✧ 1988 BS and BSE from University of Pennsylvania
- ✧ 1989 works as a research assistant in the Finance Department at Wharton
- ✧ 1990 starts at Goldman Sachs Asset Management in a new quantitative research desk while working on his PhD with Fama at Chicago University
- ✧ 1995 starts at Goldman Sachs a \$10 million fund with computer-driven models that his team has developed. This will become the Goldman Sachs Global Alpha Fund who later went public
- ✧ 1997 launches AQR raising quickly \$1 billion
- ✧ 2017 AQR reaches \$224 bn

Strategies :

Combines **value and momentum** investing : buy value stocks (with low price-to-earnings ratios) with positive price momentum and sell growth stocks (with high price-to-earnings ratios) with negative momentum, expecting a sort of return to the mean. The key to the strategy's success, says Asness (in [3]), is "accurately and clearly defining value and momentum". Adding the momentum factor to the value and growth factors is an idea of Asness. More generally, uses strategies based on factor investing, which is an idea developed academically by **Fama and French** in their 1992 seminal paper on 3-factor models. As Asness mentions (in [3]) : "in many of our strategies we pursue a **multifactor investment strategy** which means we select investments based on multiple factors one of which is value".

Remarks : The Global Alpha Fund, who later became involved in high-frequency trading and long short strategies play in equities, bonds, currencies, and commodities in a market neutral way closed in 2009 after some bad performances. Its AUM was \$5bn at this time, after reaching a peak of \$12 bn.

Today, AQR applies its strategy of buying undervalued assets and shorting overvalued ones not only in the stock market but in 19 other financial markets as well. AQR is also widely diversified, usually buying and selling blocks of 400 stocks at a time. The company buys the 400 most undervalued and sells short the 400 most overpriced. Asness views are well explained in his TV interview [1]. As most Quant funds and Value funds, AQR has underperformed between 2018 and 2020. Contrarily to many other secretive hedge funds **Cliff Asness has written many academic papers** (such as [2]) explaining some of his trading ideas.

Net worth 2020 : \$ 2.6bn

A few specific references :

1. <https://www.youtube.com/watch?v=Twm0-HbCpQA>
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3. <https://magazine.wharton.upenn.edu/issues/fall-2006/the-long-and-the-short-of-it/>
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Chapitre 2

Investments

2.1 A few strategies

Long/short : Purchase of some securities combined with the short sale of some others. Popular ratios, expressed as % of notional, are : 50/50 for self-financing strategies and 130/30 for investment strategies. For the 130/30 ratio, funds leverage their long position in securities of 130% by financing the extra 30% by the sale of some other securities.

Value investment : Betting that stocks with low price-to-earnings ratios (value stocks) will outperform expensive ones (growth stocks). Value investors generally buy stocks using little or no leverage and hold them for the long term.

Macro : Investment/trade based on macroeconomic or monetary analysis. Encompasses using leverage to play aggressively a one-off particular event (devaluation, credit issue ... etc). In the case of very leveraged bets, the position must generally be unwound very quickly if the market moves in the wrong direction.

Carry trade : Purchasing a high yield asset while financing it at a low rate. For example, purchasing a government bond with a high yield in a given currency while financing it in a

low interest rate currency. The strategy is successful if the spread earned is not annihilated by a change in the spot FX.

Factors investing : Picking securities based on some traits such as : recent performance (momentum), volatility, or some financial characteristics (small cap, large cap, growth, value). Often related to Fama & French three factor models and its successors. Strategy used by many quantitative funds. The factors explain the risk but also the expected remuneration of the assets. This type of analysis is at the centre of the creation of some rules-based ETFs or funds.

Trend following/momentum trading : Investment strategy based on the charts and not on fundamental analysis. It is one of the first strategy that has been used in the commodity markets (and with success). The difficulty is to capture the trend early enough and to detect the point where the market turns. The turning point is expected to be identified through some "weakness" indicators (loss of momentum). The first academic paper recognising the existence of exploitable trends in the commodity markets was published in 1980 by Scott Irwin, about 20 years after people started trading them with success, such as the Commodities Corporation. Momentum is often added as an extra factor for the analysis of value versus growth strategies.

Mean reversion/convergence trades : Strategy for which, for some technical or fundamental reasons, an asset price or the difference between two assets' prices is supposed to revert to a certain level.

Example : "Risk Arbitrage", and "M&A arbitrage" where the prices of two stocks are supposed to converge, if an M&A offer is successful.

Alpha investing : Strategies often linked to factor investing, but where the resulting portfolio is hedged against the risk factors, in order to capture a spread but without being exposed to the factors.

Smart beta investing : Strategies for which the portfolio is expected to outperform its

benchmark by adjusting the factors weights of the benchmark for the portfolio.

Example : investing in equally weighted baskets rather than market weighted benchmarks, if small stocks appear to generate higher returns and if the equally weighted ponderation appears to reduce further the risk.

Risk Parity investing : constructing a portfolio, without considering the expected returns of each asset class but so that each asset class contributes marginally (after diversification effect from the other asset classes) to the same proportion of the total risk of the portfolio. It then uses leverage to scale the resultant allocation to the desired volatility.

2.2 A few classical pitfalls

Timing and leverage : being right too early and not being able to hold the position until the event finally happens.

Collateral damage : having an exposure to a market which is un-expectedly affected by a problem in another market, through an unforeseen linkage.

Example : market B being impacted by people selling their holdings in (liquid) market B to cover the losses they have in (un-liquid) market A.

Disclosure effect : announcing a large position difficult to sale and to finance.

Example (Mallaby) : "LTCM had a small position in hurricane bonds, the day the info leaked, while LTCM was in difficulties, the bonds plummeted 20 percent, even though the probability and cost of hurricanes was utterly unaltered".

Excessive tail exposure : selling protections against rare events which will ruin you if they realise.

Example : LTCM selling OTM options without hedging them adequately, believing they would expire worthless

Anomaly resilience : Playing a return to the normal but which is not happening or even

aggravating and with finally no time horizon for this return to the normal except pure wishful thinking.

Mis-diversification : Believing that risk is limited due to diversification, while all strategies collapse simultaneously

Example : LTCM and many others realising that in a market crash the correlation are much higher than expected

Crowd issue : Many hedge funds trade on similar ideas and models and may end up creating on an aggregated basis a very large position difficult to manage. When putting the trade in place they may detect an encouraging momentum in the market which in fact is just their own momentum.

Quand fund issue : As stated by Renaissance Technology in a September 2020 letter to its clients and reported by Bloomberg : "It is not surprising that our funds, which depend on models that are trained on historical data, should perform abnormally (either for the better or for the worse) in a year that is anything but normal by historical standards".

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