



Analysis of Major Opportunities in the Futures Markets

Overview

As we examine old-news published over the years by financial press, we notice recurring themes along the lines of: “We are entering in a new paradigm”, “Uncharted waters are ahead of us” and “The Markets have changed”. These types of statements arise over and over as people experience uneasiness and feelings of anxiety.

Often, assumptions are made to support these statements:

- Some focus on monetary and credit regimes shifts (inflationary and deflationary, credit expansion and credit contraction);
- Others concentrate on technological innovations and the increase in computational power for analysis; and
- Others relate to changes in human behaviour.

Utilizing available historical data, Glider Trading Research has built metrics to count and measure price dynamics in the Futures Markets over the last 35 years. In this study, we focus on measuring the number of significant trading opportunities available.

Major Opportunities

Systematically capturing a meaningful part of a price move whilst limiting the risk taken is an essential component for many directional strategies. Accordingly, critical drivers of portfolio performance for directional strategies are trades which experience forceful price moves with relatively minor retracements. Glider Trading Research calls such price patterns “Major Opportunities” and these patterns are quite common¹.

In this study we look at how many Major Opportunities have occurred historically among a selection of representative Futures over the last 35 years and whether they are well distributed or concentrated within a particular Futures Group. To use a Baseball analogy, for directional strategies these price patterns are “Home Runs”. A Home Run is typically achieved by hitting the ball over the outfield fence without first touching the ground. In the same manner focusing on price dynamics, a Major Opportunity occurs when there is a significant price change that may include limited price retracements relative to the initial price range.

For the purpose of this study, Glider Trading Research defines a Major Opportunity as **every price move which within 1-year extends at least 30 times the average daily price range² without experiencing a retracement greater than 10 times the average daily price range**. This ends when a retracement greater than 10 times the average daily price range occurs or when the price move fails to make new highs or lows within one year. Accordingly, a Major Opportunity can last longer than one year.

Chart 1, on the next page, provides an example of a Major Opportunity for the Corn Future. In February 2011, the Corn Future contract reaches a maximum multiple of 43.4 times the value of the average daily price range of June 2010 while the maximum retracement for the period is 8.2 times the average daily price range (less than our retracement parameter of 10, the value selected to register the termination of a Major Opportunity). The end date of this Major Opportunity is in March 2011 following a retracement of 14.2 times the average daily price range.

There are further examples on page 13 of this study.

¹ Some readers may find similarities of this study with the pioneering work done on stocks by Richard S. Love on his book “Super-performance stocks” written in 1977.

² For the purpose of this study Glider Trading Research uses the Average True Range over the last 20 days as a measure of the average daily price range. The Average True Range is computed by taking the moving average of the daily true range.

The daily true range is the greatest of the following: current high less the current low, the absolute value of the current high less the previous close, the absolute value of the current low less the previous close.

Major Opportunity in Corn

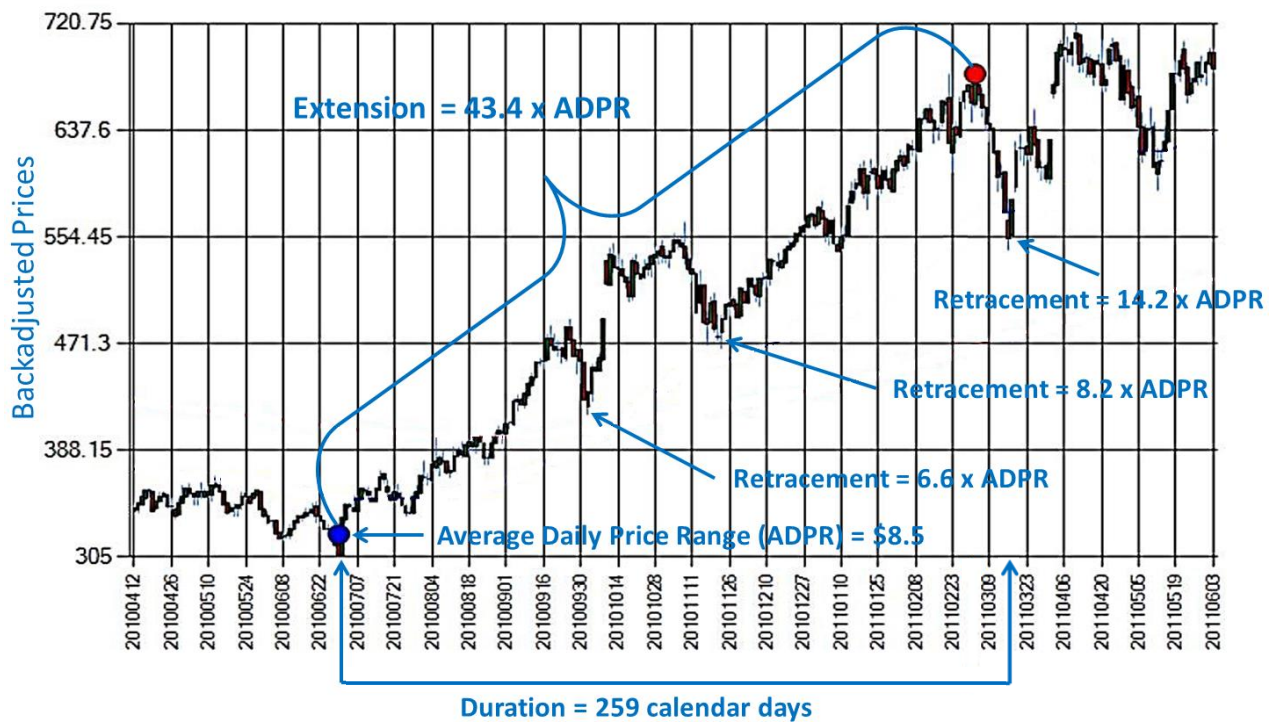


Chart 1

We choose to normalize the extension of the price move by the average daily price range, measured at the beginning of the price move, in order to make meaningful comparison between different Futures as they exhibit varying levels of volatility. The average daily price range can be as small as a fraction of a per cent for ordinary low-volatility Futures, such as a Eurodollar contract, or well in excess of five per cent for highly-volatility Futures, such as a Natural Gas contract.

It is worth noting that the number of Major Opportunities per year is a function of the choice of parameters (e.g. 30 times the average daily price range). Glider Trading Research has selected the above parameters to focus on intermediate to long term price motions.

Finally, it is extremely unlikely that any directional strategy may participate in the whole extent of the price move. The vast majority of directional strategies are reactive by design and are willing to wait for some form of price confirmation or clear signal before committing to an entry or an exit. Furthermore, some directional strategies may rotate out of an existing trading opportunity into a more promising one to attempt to capture a better price motion.

Results

A) Yearly and monthly analysis

The table below (Table 1) shows the number of Major Opportunities per calendar year among the most representative Futures³ traded around the world.

Year	No. of Major Opportunities	Ending in the same Year	Ending in a different Year
1979	18	12	6
1980	11	4	7
1981	5	1	4
1982	5	0	5
1983	10	3	7
1984	10	0	10
1985	19	5	14
1986	14	2	12
1987	14	5	9
1988	15	3	12
1989	16	2	14
1990	14	8	6
1991	16	2	14
1992	18	3	15
1993	21	5	16
1994	24	7	17
1995	16	0	16
1996	16	0	16
1997	14	3	11
1998	11	1	10
1999	13	1	12
2000	13	2	11
2001	8	0	8
2002	23	2	21
2003	14	2	12
2004	5	0	5
2005	13	2	11
2006	11	2	9
2007	31	4	27
2008	17	3	14
2009	5	1	4
2010	11	2	9
2011	6	0	6
2012	3	0	3
2013	10	1	9
2014	18	0	18
2015	n/a	1	n/a

Table 1

³ For further explanation see “Data” section in Appendix B.

It is important to note that we classify Major Opportunities based on their inception date (the date when the price move begins). As such, our partial results for 2015 show that while one Major Opportunity that began in 2015 ended within the year, there may be further Major Opportunities that began in 2015 and are currently developing through 2016. For example, most of the Major Opportunities for the year 2013 started in the second half of the year (some during the last months) and developed through 2014. Accordingly, due to the criteria mentioned above, they have been labelled as 2013 Major Opportunities ending in a different year.

The results depict that on average 81.8% of Major Opportunities end in a year which is different than the starting year.

Our research shows that all Futures have experienced phases characterized by significant price expansion/contraction within one year and brief retracements or sideways price movement, followed by further price expansion/contraction. For some Futures this second price expansion/contraction can be another Major Opportunity.

Overall, we record 489 Major Opportunities amongst the Futures we considered in this study, mostly as upward price moves (334 or 68%) as per Table 2 in Appendix A.

Chart 2 below shows the number of Major Opportunities that occur each month, along with the moving average over 12 months. The average number of Major Opportunities per month oscillates around one.

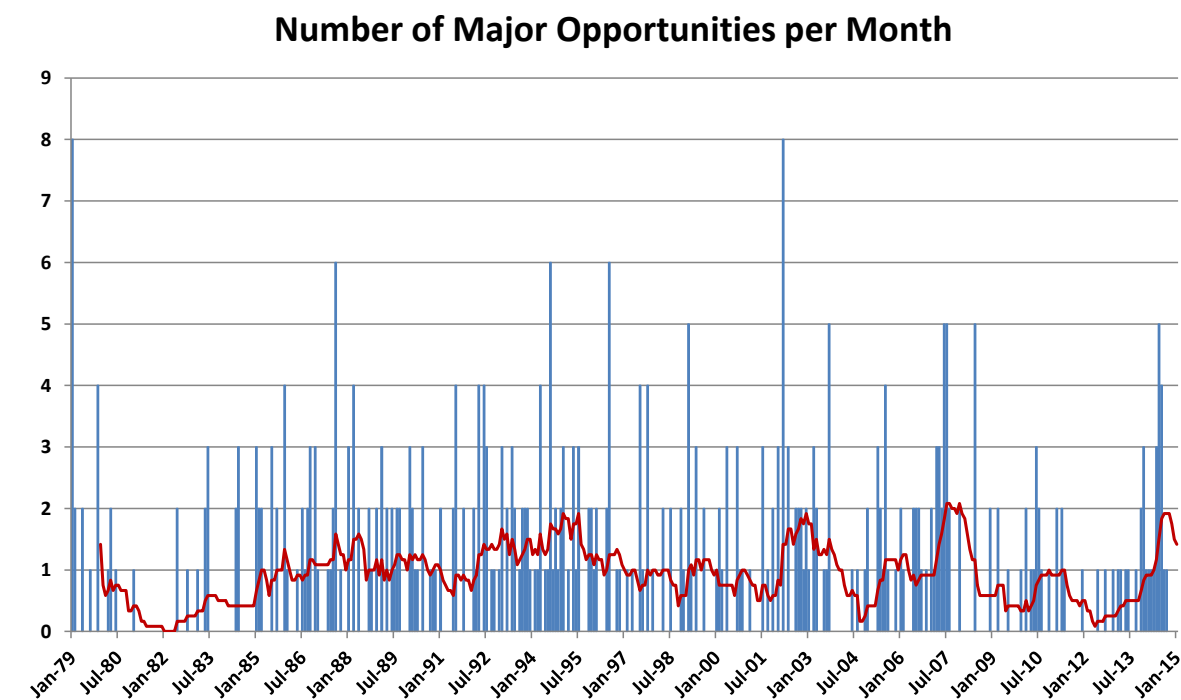


Chart 2

B) Future Group analysis

Table 2 below shows the aggregate results accomplished by grouping all individual Futures per Future Groups (e.g. Equity Index Futures, Bond Futures, Soft Commodity Futures...) and by splitting them between Commodity and Financial Futures.

Commodity Futures represent a higher proportion of Major Opportunities recorded, accounting for 59% of the total whilst Financial Futures account for the remaining 41%.

	Group	No. of Major Opportunities	% of Total	
Commodities	Grains	62	12.7%	59%
	Softs	46	9.4%	
	Livestock	20	4.1%	
	Energies	57	11.7%	
	Metals	103	21.1%	
Financials	Currencies	65	13.3%	41%
	Bills & shorter maturities	50	10.2%	
	Government Bonds	42	8.6%	
	Equity Indexes	44	9.0%	

Table 2

As shown in the following Table 3, most of the Major Opportunities in Commodity Futures occur as upward price moves while Financial Futures are more balanced.

	Group	Upward	Downward	Upward/Total
Commodities	Grains	49	13	79%
	Softs	28	18	61%
	Livestock	13	7	65%
	Energies	35	22	61%
	Metals	79	24	77%
Financials	Currencies	35	30	54%
	Bills & shorter maturities	35	15	70%
	Government Bonds	34	8	81%
	Equity Indexes	26	18	59%

Table 3

C) Aggregate analysis

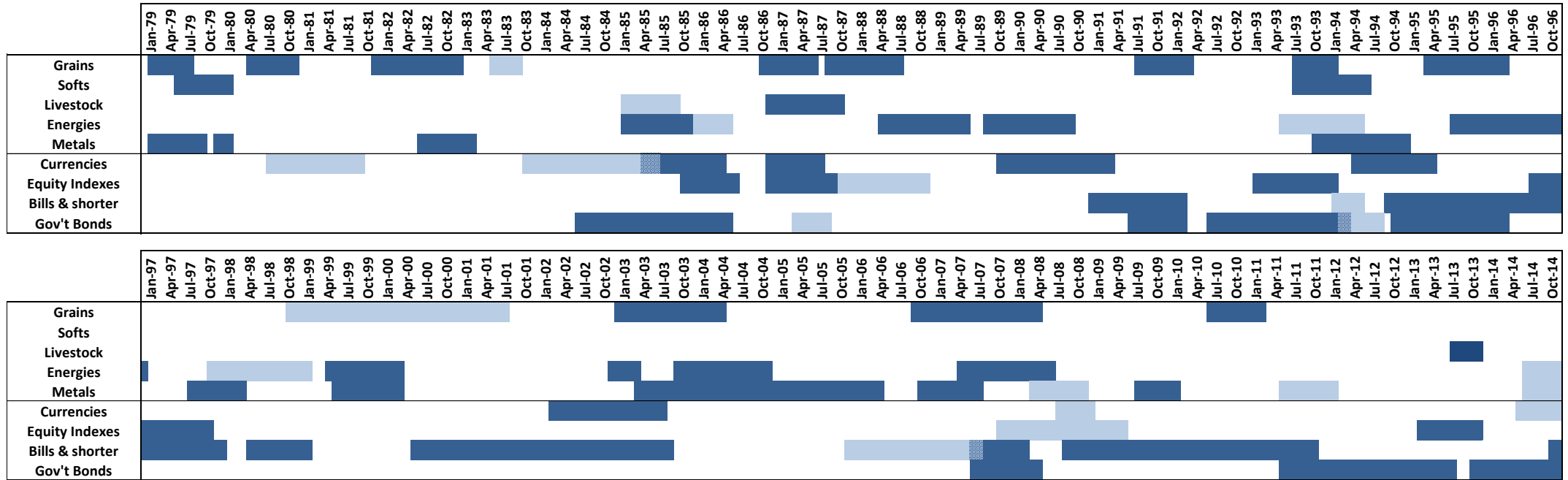
As prices of different Futures, belonging to the same Futures Group⁴, undergo concurrent growth and contraction phases, we choose to analyse relationships at a Future Group level.

Glider Trading Research classifies a Group Opportunity if at least two Futures of the same Future Group experience Major Opportunities patterns in almost overlapping periods. On the following page, “Group Opportunities” (Chart 3) looks at the different phases amongst Future Groups. Such phases are often partially overlapping, creating an ideal stream-flow of opportunities which shifts and rotates among Future Groups with episodic resting periods.

One limit of this type of classification is that some Future Groups show a higher co-movement propensity (e.g. Energy Futures) whilst others are relatively independent (e.g. Soft Commodity Futures). Also, co-movement propensity of upward price moves is in general different than co-movement of downward price moves. We explore this topic in more detail in another study.

⁴ Future Groups are defined in the “Data” section in Appendix B.

Group Opportunities



Legend

Upward	
Downward	

Chart 3

Conclusion

One of the primary drivers of performances for low-frequency directional strategies depends on the existence and persistence of Major Opportunities as well as the methodologies used to capture them. In this study, we describe and analyse the frequency and distribution of Major Opportunities per calendar year, over the last 35 years and show that:

- Major Opportunities occur in every calendar year between 1979 and 2014.
- Major Opportunities exist for both upward and downward price motions, with a notable higher frequency for upward price motions amongst Commodities Futures.
- Major Opportunities are well distributed amongst Futures Groups.
- On a 12-month moving average basis, the number of Major Opportunities per month oscillates around one.

These Major Opportunities rotate among different Futures as each undergoes contraction and expansion phases. As these rotations occur, the annual average number of Major Opportunities remains consistent every month. Thus, for Major Opportunities, compositional change is co-instantiated with persistent occurrences.

APPENDIX A

The table 4 below shows the number of Major Opportunities per calendar year over the last 35 years in the most representative Futures traded around the World classified as “Upward” or “Downward” based on the direction of the price motion. The frequency shows that historically 68% of the Major Opportunities occur as upward price moves and 32% as downward price moves.

Year	Total	Upward	Downward	No. of Futures considered
1979	18	15	3	28
1980	11	4	7	28
1981	5	1	4	28
1982	5	3	2	28
1983	9	5	4	29
1984	10	3	7	32
1985	19	12	7	35
1986	14	13	1	36
1987	14	9	5	38
1988	15	11	4	40
1989	16	9	7	42
1990	14	11	3	46
1991	16	9	7	49
1992	18	13	5	52
1993	21	14	7	55
1994	24	17	7	57
1995	16	15	1	57
1996	16	12	4	57
1997	14	4	10	58
1998	12	6	6	59
1999	13	11	2	61
2000	13	7	6	63
2001	8	6	2	64
2002	23	22	1	64
2003	14	13	1	64
2004	5	5	0	64
2005	13	12	1	64
2006	11	9	2	64
2007	31	22	9	63
2008	17	6	11	63
2009	5	4	1	63
2010	11	11	0	63
2011	6	4	2	62
2012	3	2	1	62
2013	10	8	2	62
2014	18	5	13	62
Total	488	334	154	

Table 4

APPENDIX B

Data collection for this study

Glider Trading Research collects data from multiple data vendors to create back-adjusted⁵ price series and also to dynamically filter out Futures Contracts in order to have only the highest liquid Futures per Futures Group (e.g. Equity Index Futures, Bond Futures, Soft Commodity Futures...). These are the most traded and representative Futures among Systematic Managed Futures Managers.

Commodity Futures (32)

Grain Futures group (7): Corn, Wheat, Kansas Wheat, Rough Rice, Soybean, Soybean Meal and Soybean Oil

Soft Commodity Futures group (6): Cotton, Lumber, Cocoa, Coffee, Sugar and Rubber

Livestock Futures group (4): Feeder Cattle, Lean Hogs, Live Cattle and Pork Bellies

Energy Futures group (7): Brent Crude, Gas Oil, Heating Oil, Natural Gas, RBOB Gasoline, Unleaded Gas and Crude Oil

Metal Futures group (8): Aluminium, Lead, Nickel, Zinc, Gold, Copper, Palladium and Silver

Financial Futures (32)

Currency Futures group (9): Australian Dollar, British Pound, Canadian Dollar, Euro (before 1999 Deutsche Mark), EUR/JPY, Japanese Yen, Mexican Peso, New Zealand Dollar and Swiss Franc

Bills & Shorter Maturity Futures group (8): Canada Bankers' Acceptance, Eurodollar, Short sterling, Euroswiss, Schatz, Euribor 3-month, Euroyen and Australian Bank Bills

Government Bond Futures group (7): Bund, Canadian Government Bond, Gilts, Swiss Government Bond, 10-year Notes, Treasury Bond and Japanese Government Bond,

Equity Index Futures group (8): Kospi, FTSE 100, Nasdaq 100, S&P500, Eurostoxx50, Nikkei, Dax and Hang Seng Index

⁵ Back-adjusting refers to a group of methodologies used to create a single time-series of prices for a Future product (e.g. Soybeans Future) by joining the individual Futures contracts price time-series which have different deliveries (e.g. Soybean March 1998, Soybean May 1998). Prices are adjusted backward in such a way that the current Future contract price is equal to the back-adjusted one. The back-adjusting primary aim is to preserve trading results and experience throughout the whole price time-series.

Number of Futures

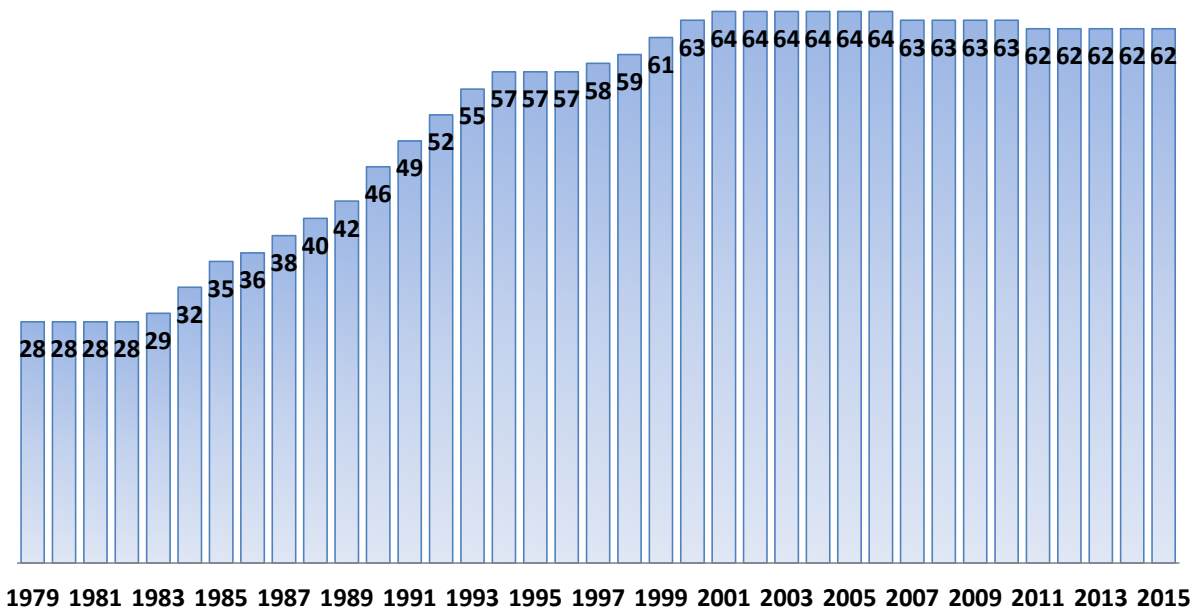
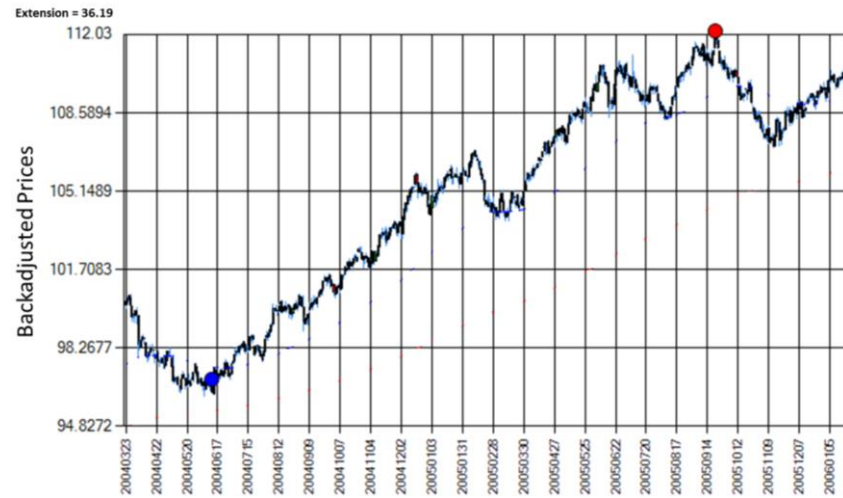


Chart 4

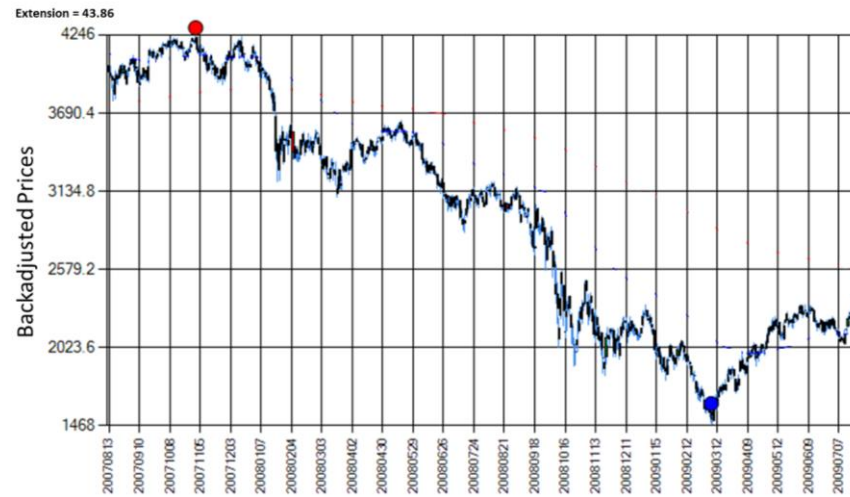
The following chart displays an increase in the number of different Futures contracts selected by Glider Trading Research for this study. This occurs due to increasing liquidity of Future contracts that pass a sufficient level to be included in the research together with the creation of new Future contracts by Global Exchanges over the last 35 years.

Examples of Major Opportunities

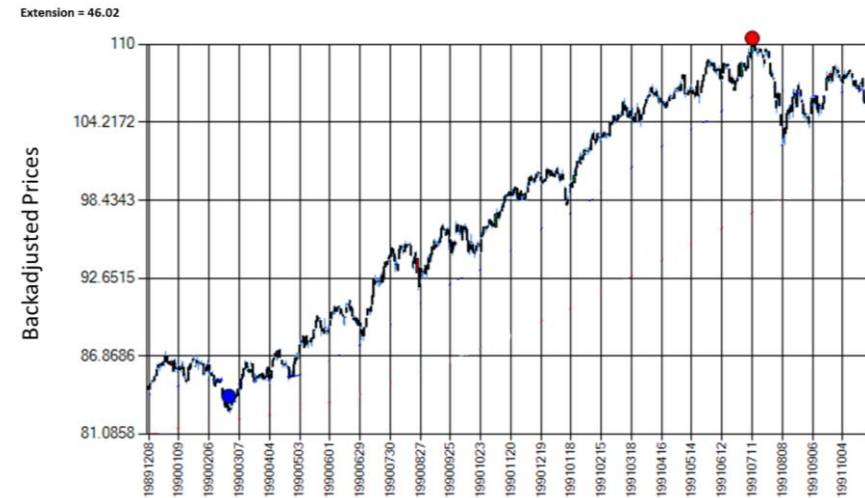
EBUND from Jun 2004 to Nov 2005



EURSTX 50 from Oct 2007 to May 2009



Feeder Cattle from Feb 1990 to Aug 1991



Silver from Aug 2005 to Apr 2006

