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Report on systematic portfolio VT26

PLEASE READ THE FOLLOWING STATEMENT CAREFULLY:

THE RISK OF LOSS IN TRADING COMMODITIES CAN BE SUBSTANTIAL. YOU SHOULD THEREFORE CAREFULLY CONSIDER WHETHER SUCH TRADING IS SUITABLE FOR YOU IN LIGHT OF YOUR FINANCIAL CONDITION.

HYPOTHETICAL OR SIMULATED PERFORMANCE RESULTS HAVE CERTAIN INHERENT LIMITATIONS. UNLIKE AN ACTUAL PERFORMANCE RECORD, SIMULATED RESULTS DO NOT REPRESENT ACTUAL TRADING. ALSO, SINCE THE TRADES HAVE NOT ACTUALLY BEEN EXECUTED, THE RESULTS MAY HAVE UNDER- OR OVER-COMPENSATED FOR THE IMPACT, IF ANY, OF CERTAIN MARKET FACTORS, SUCH AS LACK OF LIQUIDITY. SIMULATED TRADING PROGRAMS IN GENERAL ARE ALSO SUBJECT TO THE FACT THAT THEY ARE DESIGNED WITH THE BENEFIT OF HINDSIGHT. NO REPRESENTATION IS BEING MADE THAT ANY ACCOUNT WILL OR IS LIKELY TO ACHIEVE PROFITS OR LOSSES SIMILAR TO THOSE SHOWN.

Recently I have initiated an experiment in Collective2, trying to answer the operation of the portfolio ORB2 that to date has worked relatively well, as much in tests out-sample as in real operative.

Portfolio systematic is made up of a group of intradaily systems type Volatility Breakout, that take advantage of each small market movement in different hour ranks. It provides an optimal distribution of the risk throughout the session, that at the same time contributes to diversify in the time the activity of each market/system.

In addition to the input devices - based on an own algorithm -, each system incorporates a volatility filter / market direction, that acts like an ON-OFF switch, allowing to send orders only in the moments of the session considered optimal. In some situations, the filter inhibits the activation of a system during two or more days. Finally, the closing of positions follow a dynamic formula that combines MM. Stop and intrinsic volatility. The present version of the system does not include exits by profit targets since, in back-test tests, I have verified that its implementation produces worse results in almost all the markets studied.

Composition of the portfolio.

In the tests of back-test and out-sample, the combination of markets were calculated considering an initial capital of 100,000\$ (or 70,000). The data of all the graphs and tables are in euros and, in the simulations, the change Euro to /dollar has been reviewed monthly.

The products which began the viability of the portfolio study are:

- MR: Mini-Russell (2 contracts)
- DX: FDAX (1 contract)
- MFXI: FIBEX35 (1 contract)
- YG: Mini of Gold (3 contracts)
- QM: Mini of petroleum (1 contract)
- ED: Euro Bund (3 contracts)

In later phases and during their real application, they went on incorporating other markets, like the EMD: MIDCAP 400, and varying the number of contracts according to the applied rules of monetary management. Lately, when applying the VT26 to the Collective2 the mini contracts YG and QM have been changed for larger ZG and CL, that have simultaneously suppressed the FIBEX35 (when not giving to C2 cover for this product), assigning its weight in the portfolio to the Euro/Dollar (6E).

Implementation of the systems.

The trading algorithms were designed, initially, to operate with *Visual Chart* platform. With this software the back-tests were made and the systems portfolio was managed during the year 2007. The orders were sent using the TWS of Interactive Brokers. Later, some deficiencies and complications in operative real arose that advised to migrate the systems to another platform. Several alternatives were studied (*Wealth Lab, TS, MultiCharts...*) of which *Ninja Trader* resulted to be the best, by its wonderful simultaneous integration with IB and C2 .

At the moment the systems are being managed in a totally automated way, in a schedule from 9 to 22.15 h. Beginning and finishing each one of them according to the predicted chronogram. This was the cronograph initially used:

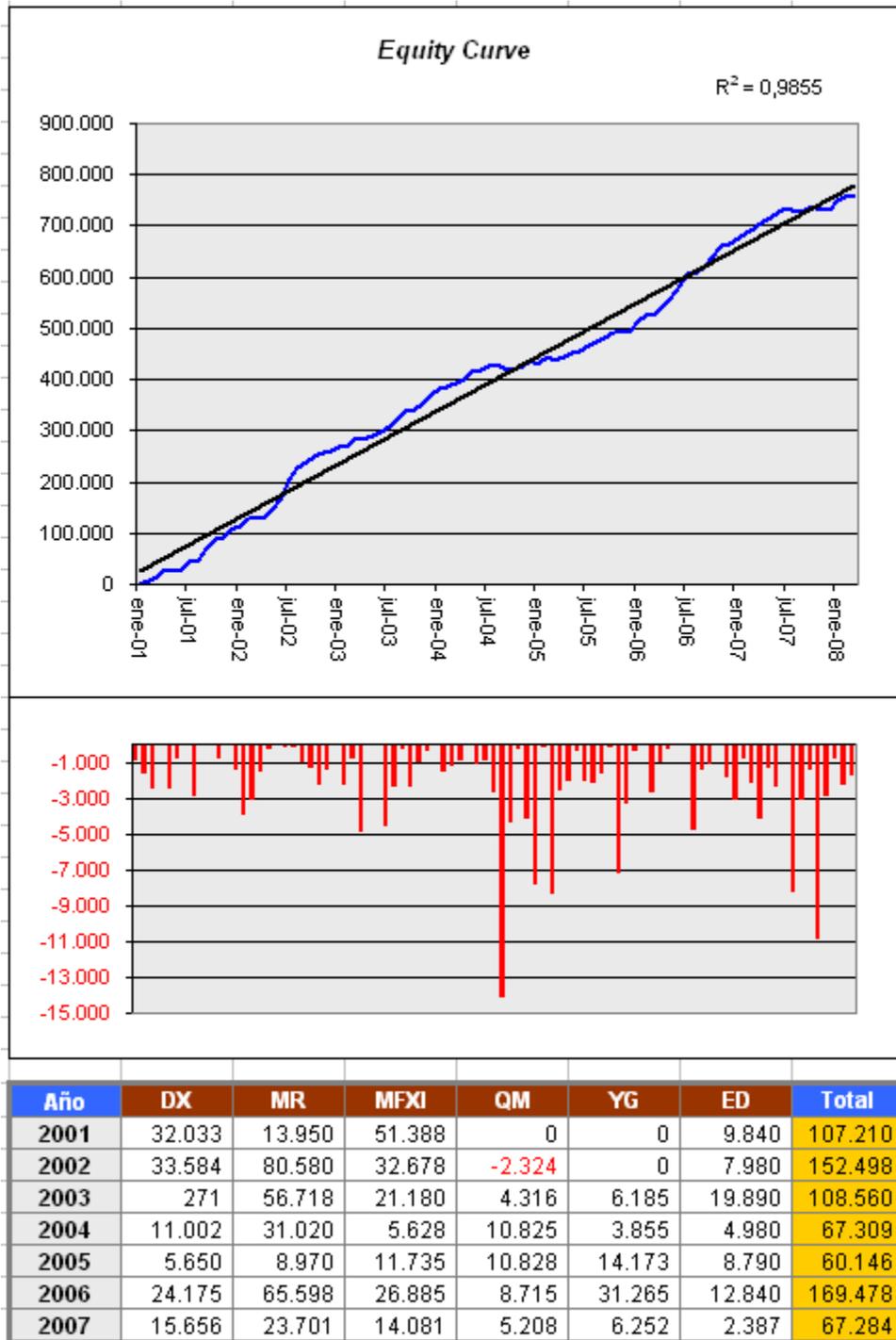
8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	Horario
	30								30						MFXI
								10		50					DX
								50						00	MR
				30						30					QM
		30											50		YC
		00								30					ED

subsequently some adjustments were made to guarantee a better distribution based on the risk and type of product.

Management of the portfolio and position size.

All the logic of the portfolio does not reside in the TRADING algorithms. The consideration of assets based on risk free capital is calculated daily on an econometric model of my own design on spreadsheets. The same happens with the position size, based on equity curves total of the portfolio and the effective behaviour of each product, which is calculated daily at the end of each session. The algorithm of position sizing, is of my own design and it is based on a slightly different exposition from the optimal F. This portfolio does not follow the maximum growth results of the curve, but that the ratio of Sharpe, in the long term, is most favourable. In fact - and like it can be seen in the track-record of C2- very few of the losing operations exceed the 1.5% of the work capital.

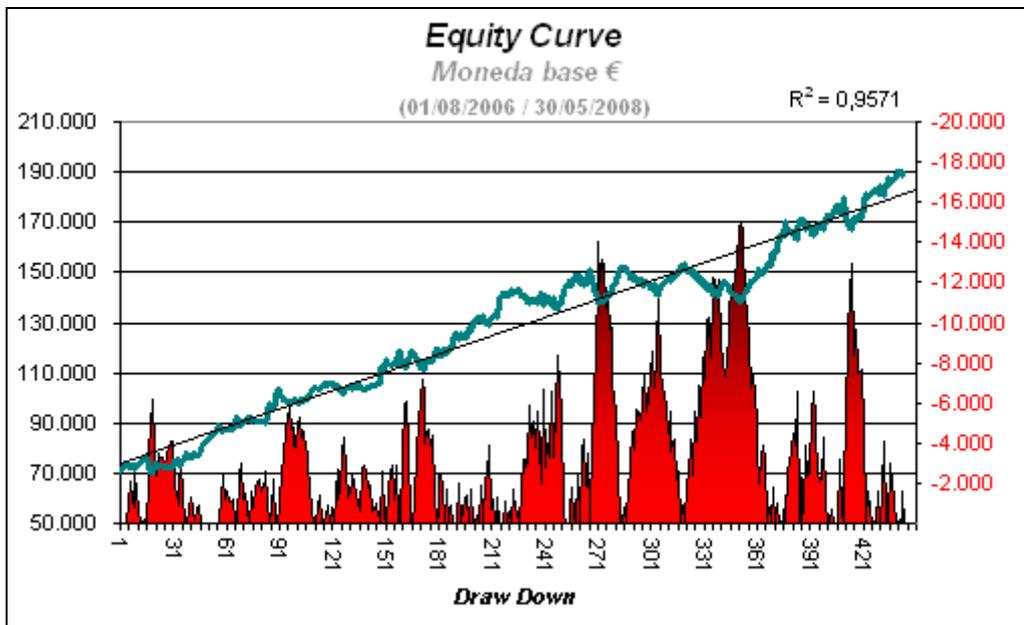
Tests of back-test. Each product of the portfolio has been put under a complete analysis using the maximum historical available. In most of the cases, between 2001 and 2007. The graphs used are of 10 minutes, except for the one of the FDAX, which for operative reasons, is 5 minutes. This it is the aspect that the back-test of the initial portfolio ORB2 offers that contains most of the products used with identical methodology (in euros):



Graphics built with monthly data.

Out-sample and Real operative.

During the operative out-sample period and real time operative the portfolio ORB2 has had the following behaviour:



Graphics built using daily data.

a) Basic ratios of the portfolio:

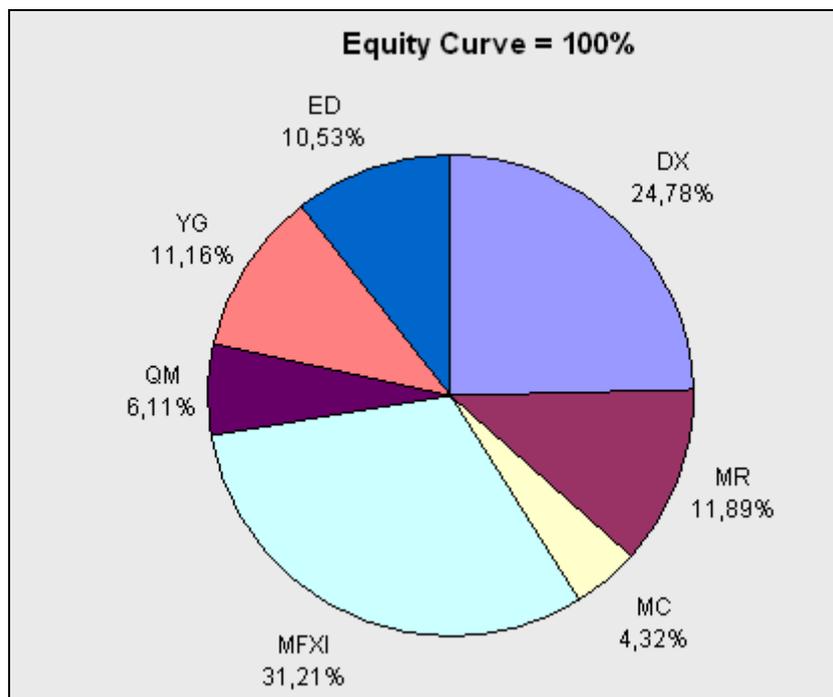
Total sessions = 443
Days in maximums = 89
Days in drawdown = 354

Ratio W/L = 1.40
Reliability (% Win) = 51.24%
Trading Advantage (TA) = 23.21%
Simplified Sharpe (Avg. R./Stdev.) = 0,31

Average daily return = 1.622€
Average daily loss = -1.155€
Daily average = 268€
Worst period = 9 sessions.

Maximum DD. = 25.14%
Worst session = -4.712€
Best session = 7.949

b) Distribution of results. Taking an initial base capital of 70,000, the undivided profit of all the period is located in the 169% and the participation of each market /system in the final result is distributed in the following way.



Although at first sight it could seem that the result is quite asymmetric, since the future of IBEX and DAX are responsible for more than half of the final benefit, these differences are reduced remarkably if we consider the size of each contract.

In any case, the force ratio between the different components from the portfolio has remarkably fluctuated in the past. For example, during the first quarter of 2007 the weight of MR got to be superior to the one of MFXI and DX. Nevertheless, at the worst moments of the portfolio (July-August, 2007) it had a very negative behaviour, getting to lose 45% of the return in the previous half year.

In the other hand, the ED behaviour has been, with difference, the most homogenous throughout the period, and if we consider the risk/return relation it is the one that obtains a more favourable result.

For what is referred to as gold, we have been using product YG as an instrument, thinking that it would be simpler to apply active strategies to modulate the size of the position from the first moment. Nevertheless, considering its slippage due to the smaller volume of hiring, in portfolio VT26, the same distribution has been replaced by the large ZG contract, maintaining the same distribution. The identical logic is being applied now with the mini ones of petroleum (QM) that has changed for larger contract (CL), although, in this case, it has been necessary to make adjustments in the distribution of the work capital and assumable maximum risk.

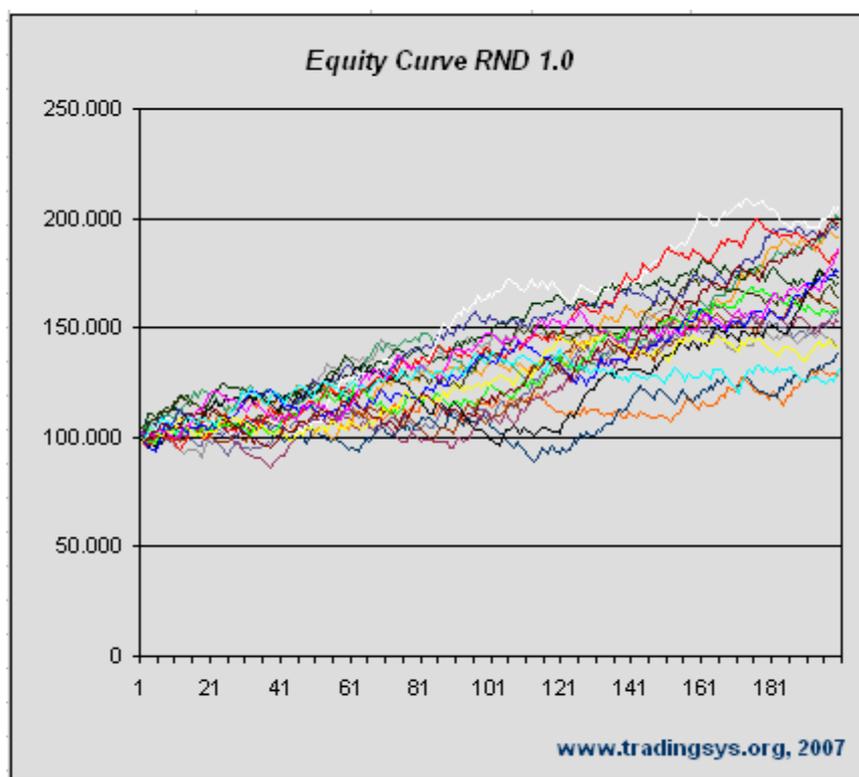
At the moment, the one that will not be present in this new portfolio is our dear MFXI, since C2 does not give support, so far, for the Spanish index. With which the freed capital is compensated partly with the greater weight petroleum acquires and with the introduction of a new system to work in the intraday Euro/Dollar (E6).

Monte Carlo Simulations.

Doubtlessly, one of the best ways to evaluate the future behaviour of any investing strategy is constructing a random series of operations that demonstrate their behaviour in different possible settings. A simple simulation can be carried out from fundamental statistics like W/L rate and the reliability. Also it is possible to construct it, in a more complete way, from the average return and loss, reliability, typical deviation, avg. trade and percentage success. In both cases, we will be constructing a synthetic series of operations that, up to a certain point (and with some limitations) deal to copy the data of the real portfolio.

Yet, there are some who prefer "to randomise" the original operations - like a person who cuts a card deck makes the simulation using a variable number of random cuts. This also has other disadvantages, mainly when the track-record available is small.

The following graph shows a constructed simulation, by means of an own algorithm, to start off the basic ratios of portfolio ORB2:



In the above diagram 20 random curves appear that represent some of the possible paths the portfolio can take during the 200 following operations. On analyzing the "sum of past results" the model gives positive hope to us (TA) in all cases, being an average of 0.26%, something higher than the one of the initial portfolio.

Our model, for an initial capital of 100,000\$ and a confidence level of 95%, offers the following data on risk or ruin (ROR):

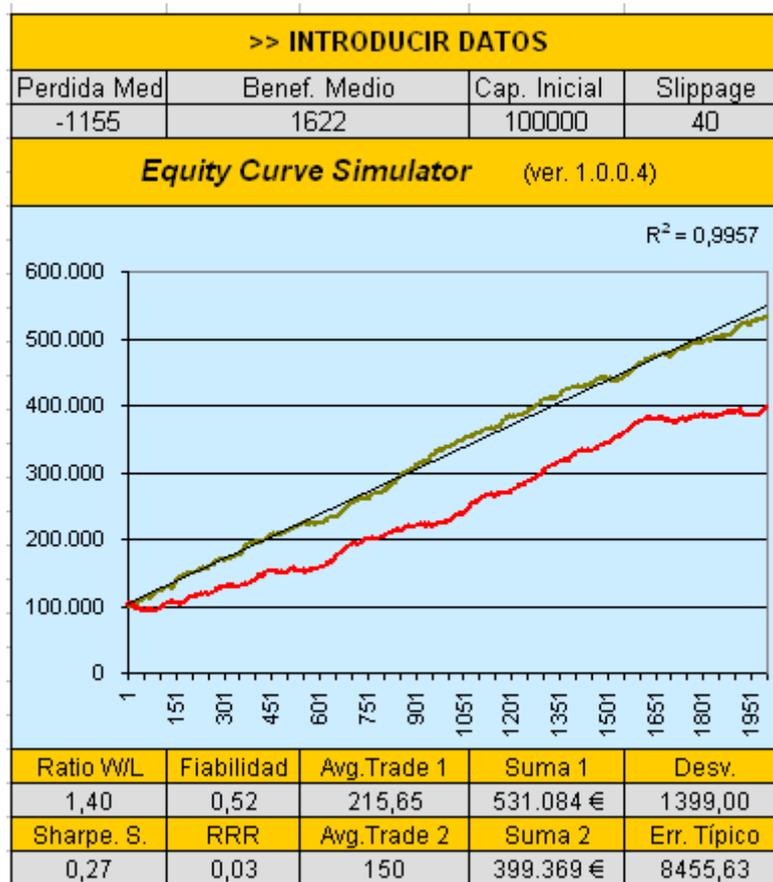
- Probability of losing a 10% of the capital in the first 50 operations = 16%.
- Probability of losing a 10% of the capital in the first 200 operations = 0, 21%.

- Risk of total ruin (considered like DD maximum. x 2,5) ROR = 0%

When being an intraday portfolio multiproduct, by "operation", "combined daily return" must be understood.

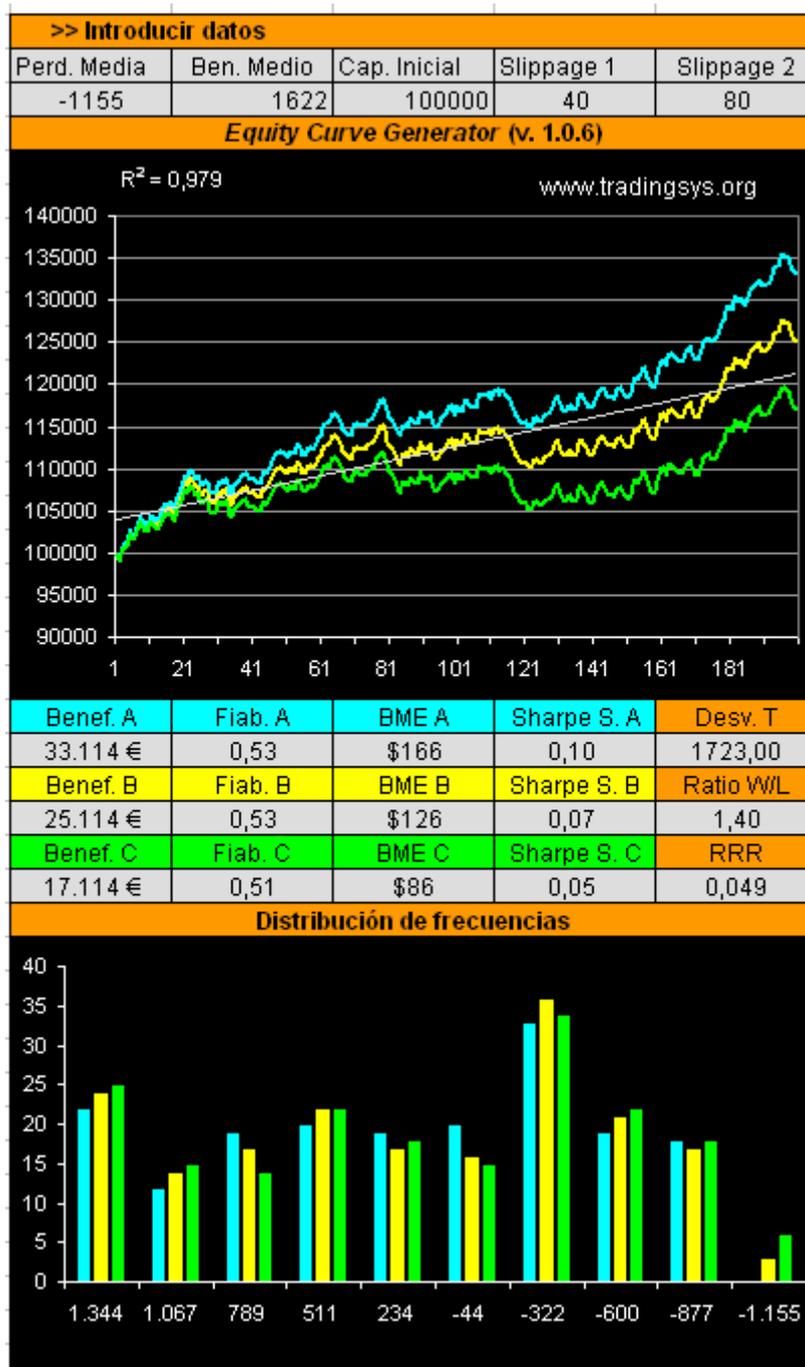
Random series and slippage.

The following graph shows the evolution of the equity curve for two different slippage settings, considering here, as slippage, the difference between model and reality months in which it had real operative data. The model makes a simulation for 2,000 independent random operations in each series.



This model subtracts a daily penalty of 40 € to the average daily return of the portfolio, which we remember is 268€. It would be, in the simulation, the worst one of the possible settings; in fact, each system/market entrance incorporates a penalty of x ticks + commissions, depending on each product.

Another form of calculating slippage - with which we do not agree- is as some trading platforms do. Subtracting in a simple way an amount of x ticks in each closed operation. The result, when applying a random simulation gives rise to curves too symmetrical, like those on the diagram below:



This would be the distribution of results in 200 random operations using devices of this type.

VT26 and distribution of assets.

In addition to the described configuration, portfolio VT26 admits a remarkable diversity of options based on the initial capital available. I have tried to maintain all of them with a similar profit/risk relation and that they benefit from the greatest diversification in systems and markets.

The following table shows some variants of the portfolio VT26:

Initial Capital	MR	MC	DX	6E	CL	ZG	ED
200.000\$	3	3	2	2	2	2	8
150.000\$	2	2	1	2	1	2	6
100.000\$	2	1	1	1	1	1	4
75.000\$	1	1	-	1	1	1	3
50.000\$	1	-	-	1	-	1	2

In each cell the number of contracts by product is indicated. The tests have been done in our position sizing simulator and with all of them optimal results are obtained. Below the 50,000\$ this methodology is no longer advisable, because the advantages of the diversification are lost.

MR (Mini-Russell 2000), MC (Mid Cap 400), DX (FDAX), 6E (EuroFX), CL (Crude Oil), ZG (Gold 100 oz.), ED (EUREX Bund).

Present state of the project. Although many of the systems and markets described here have been sufficiently proven, as much in simulated operative as real, the integrated use of portfolio VT26 is still under analysis and experimentation. And it will continue for the time necessary, until we are able to verify satisfactorily the three following critical factors:

- 1) That the new incorporations of systems/markets are integrated following the anticipated plan set in the portfolio.
- 2) That the deposits sent to C2 are operable in an automated way and that delay times do not distort in a generalized way the daily average result.
- 3) That the simultaneous use of TWS/NT/C2 is technically impeccable.

While these three points are not verified we advise against using the deposits from the systematic VT26 portfolio.

This is the reason why the acceptance of subscriptions to this system have not been allowed on the Web of C2.

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03/05/2008
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Note: (30/05/2008) VT26 has worked well in C2 during the past two months. There have been over 250 trades and we've found only six errors launch orders. We estimate the impact of average slippage, inefficiencies and transaction costs <10% of average trade.

The system will remain under observation for the month of June.

(02/06/2008) New intraday system on the pound (6B): incorporation scheduled on 03/06/2008. The aim is to further strengthen paragraph currencies.