
Systematic trading on liquid futures markets

By Urban Jäkke

Rimini May 18th, 2007

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Speakers presentation

Urban Jäkke

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Systematic trader and advisor

Writes in



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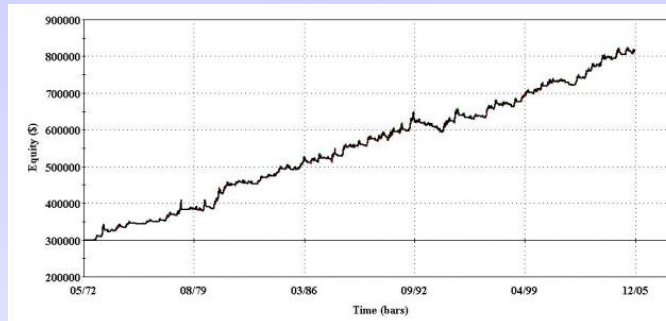
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Overview

1. **Introduction**
2. **The traded systems**
 - 2.1. Bonds: Trend following
 - 2.2. Stock Indices: Time of day
 - 2.3. Euro: (False-)Breakout
 - 2.4. Universal: Triangle
3. **Building the system portfolio**
4. **Conclusion**

1. Introduction: Theorie

Pre-determined return



High Liquidity

Robust Trading Systems

Low correlations

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1. Introduction: Reality



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1. Introduction: Goal

Bonds

Stocks

Currencies

Commodities

- Different, robust strategies for each group
- Few signals, low correlation

2.1. The traded systems

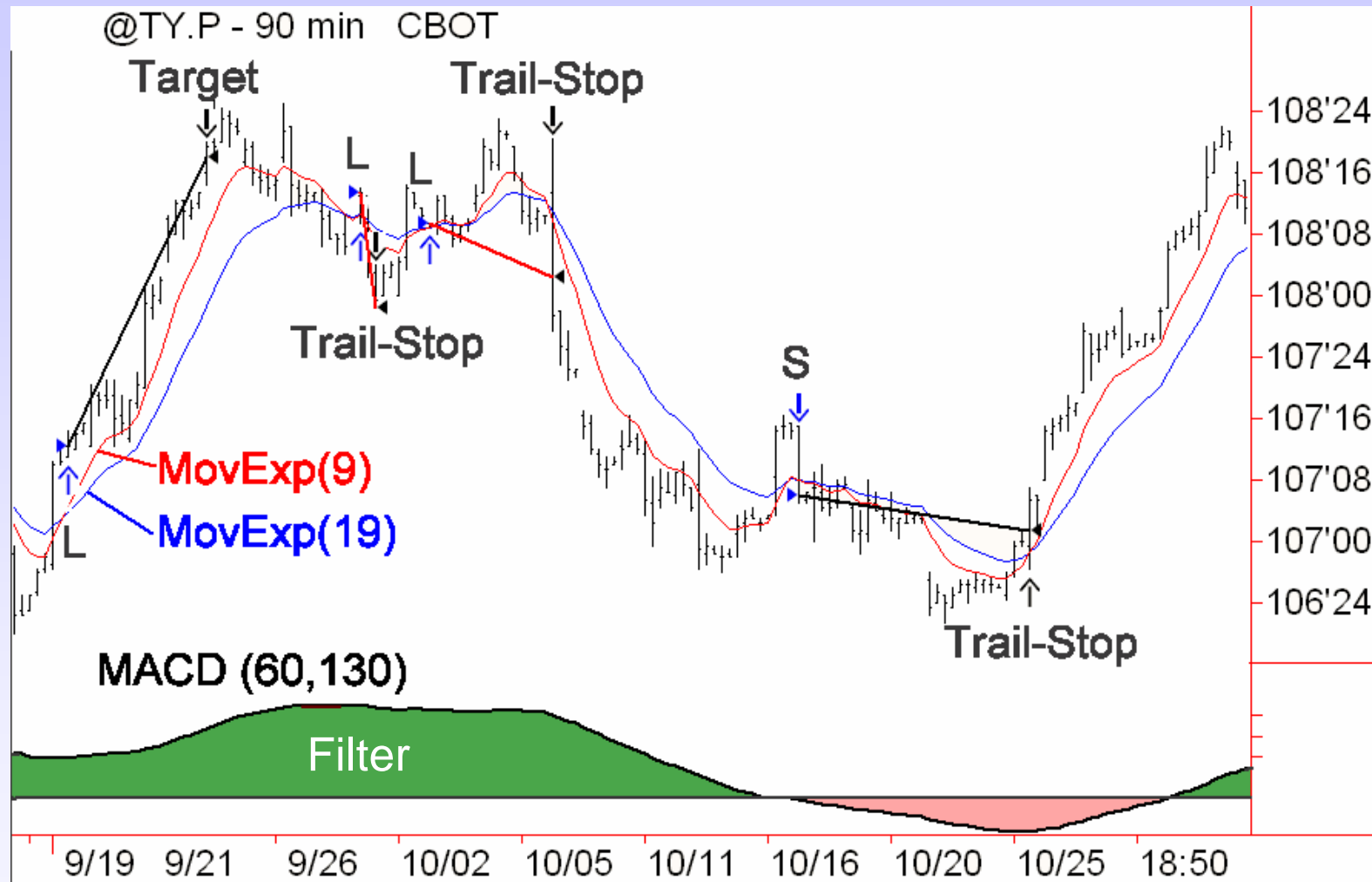
2.1. Bonds: Trend following

2.2. Stock Indices: Time of day

2.3. Euro: (False-) Breakout

2.4. Universal: Triangle

2.1. Bonds: Trend-following



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2.1. Bonds: Trend-following

Fast or Slow Trading???

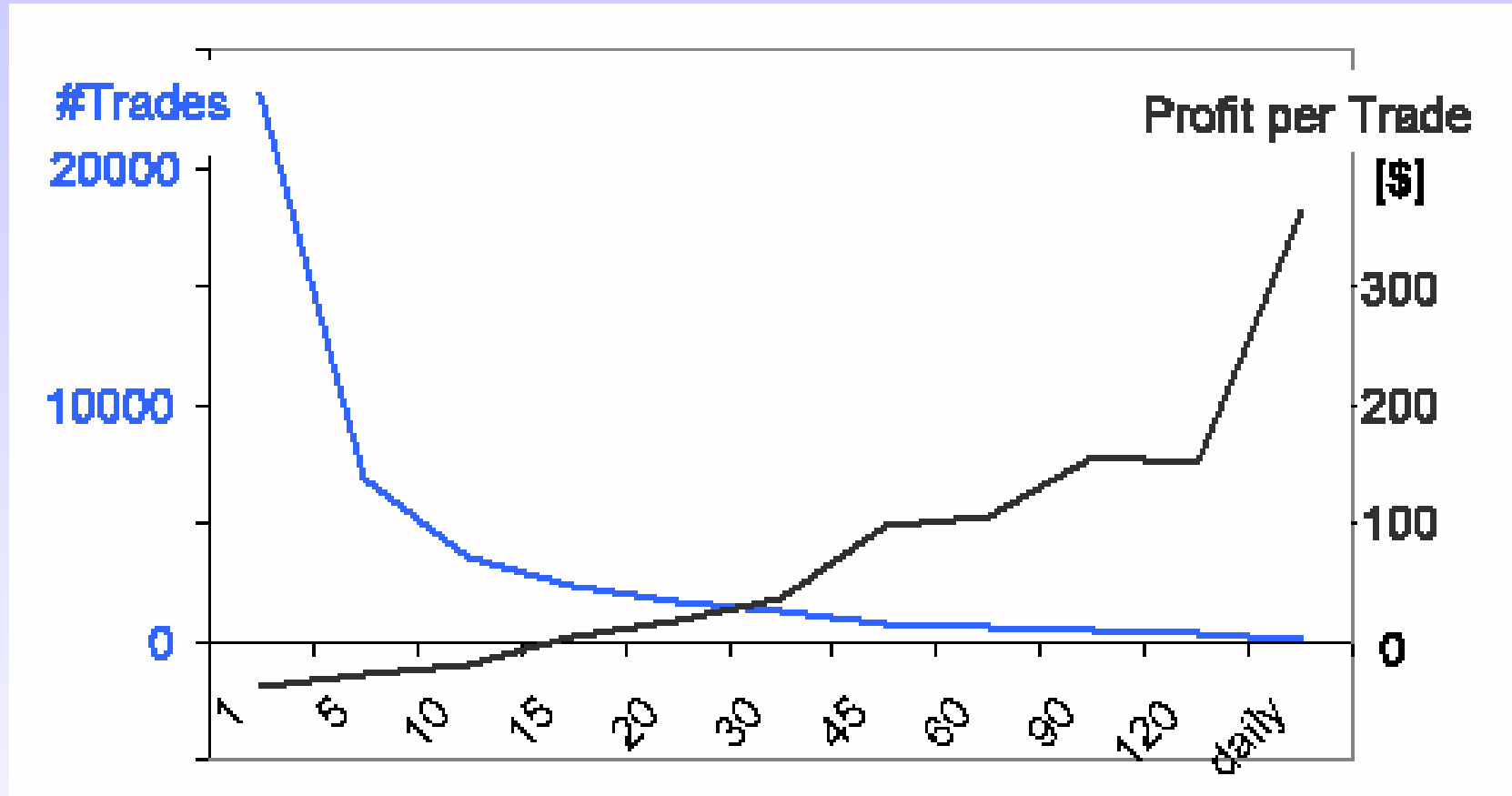


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2.1. Bonds: Trend-following

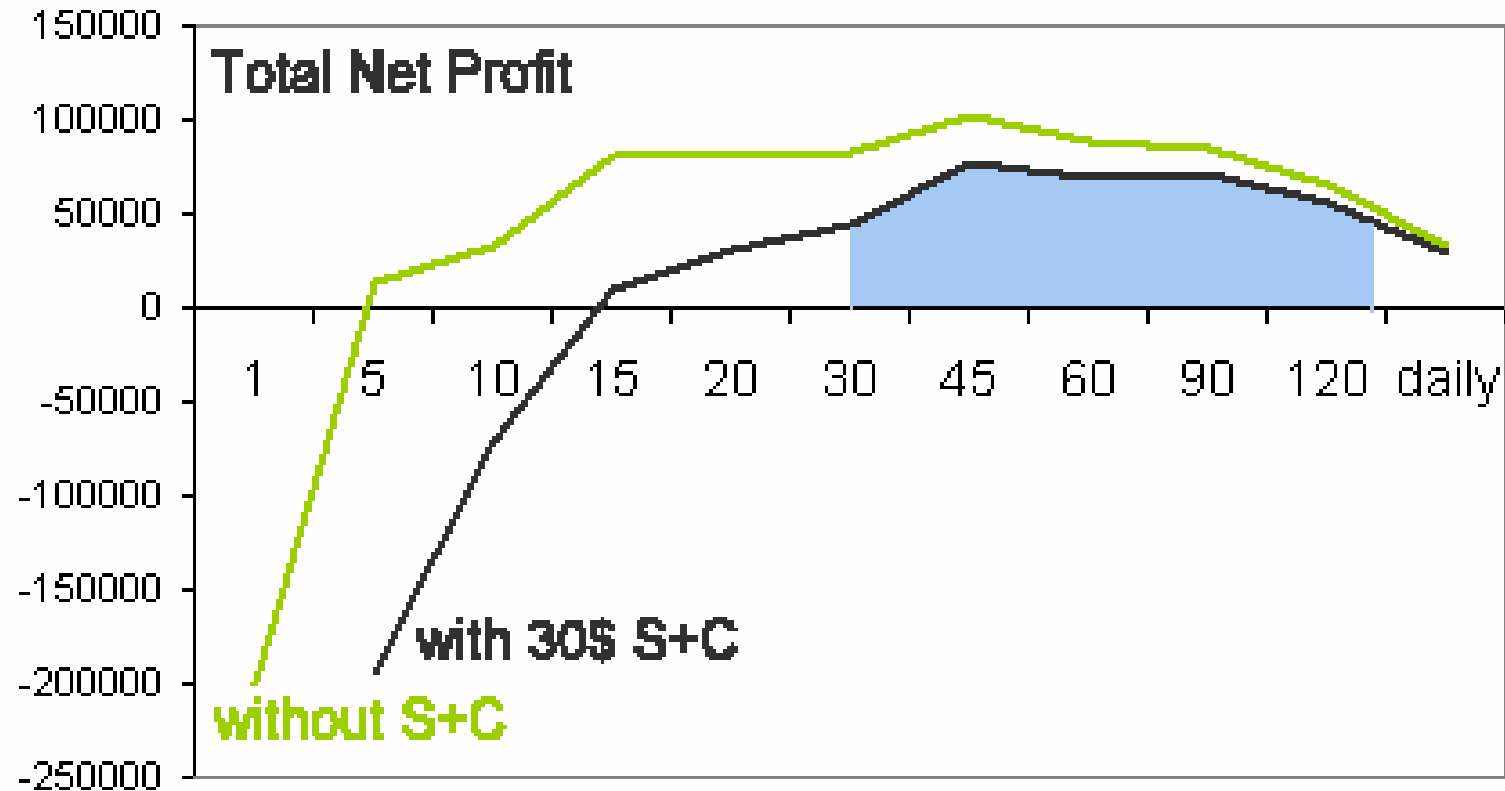


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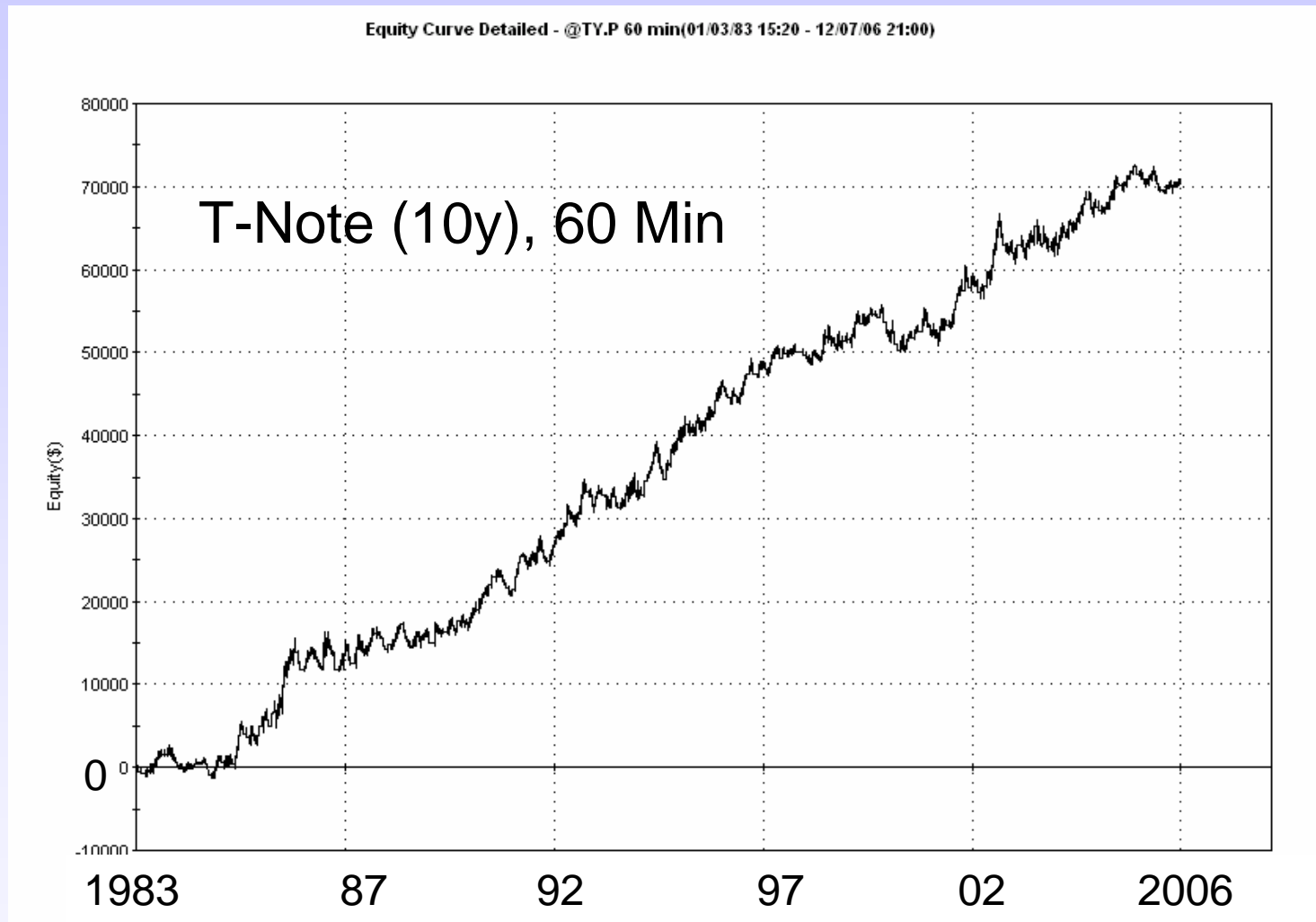
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2.1. Bonds: Trend-following



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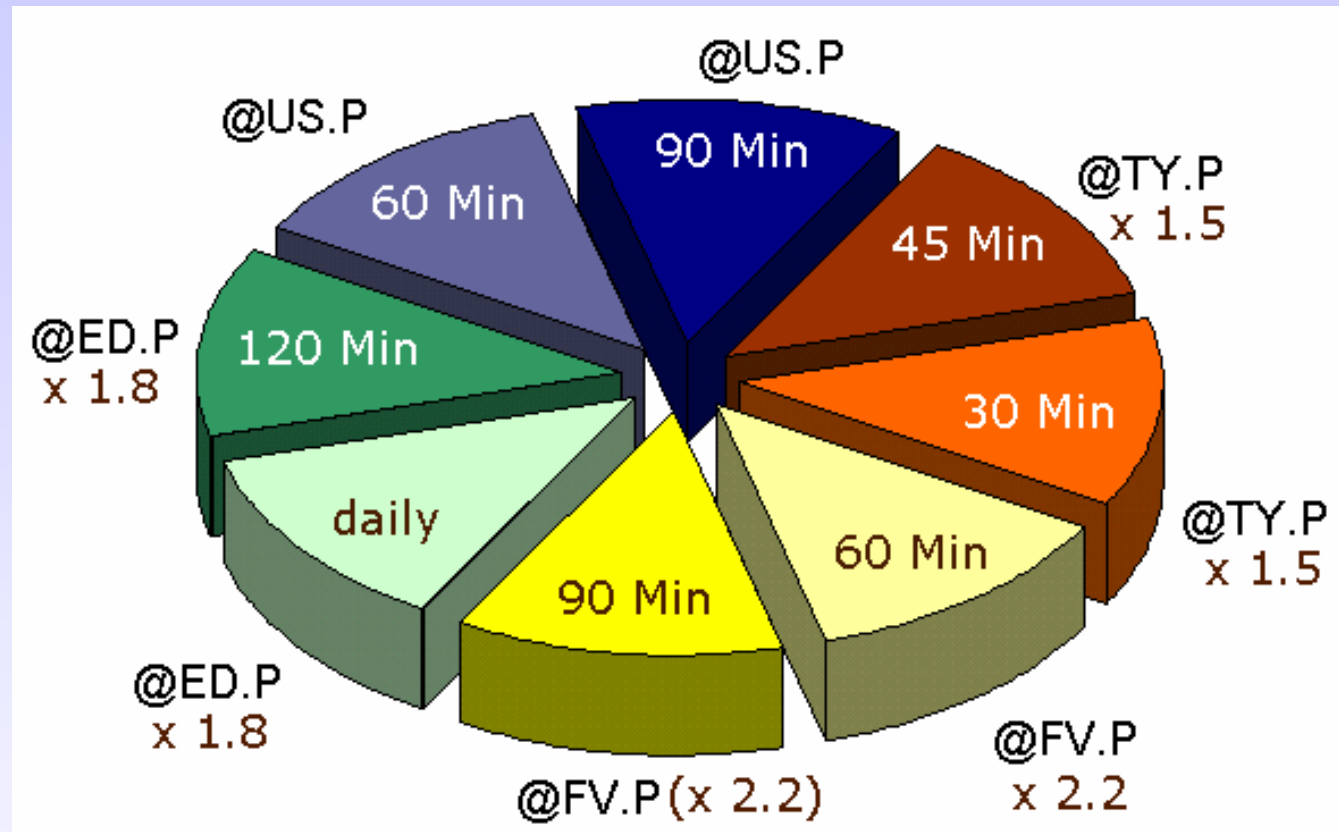


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2.1. Bonds: Trend-following



2.1. Bonds: Trend-following

Market		@ED.P	@ED.P	@US.P	@US.P	@TY.P	@TY.P	@FV.P	@FV.P
	Time	daily	120 Min	90 Min	60 Min	45 Min	30 Min	90 Min	60 Min
@ED.P	daily		0.20	0.10	0.06	0.11	0.17	0.03	0.05
@ED.P	120 Min	0.20		0.17	0.09	0.23	0.16	0.15	0.13
@US.P	90 Min	0.10	0.17		0.68	0.34	0.26	0.55	0.36
@US.P	60 Min	0.06	0.09	0.68		0.47	0.31	0.41	0.40
@TY.P	45 Min	0.11	0.23	0.34	0.47		0.59	0.37	0.48
@TY.P	30 Min	0.17	0.16	0.26	0.31	0.59		0.26	0.36
@FV.P	90 Min	0.03	0.15	0.55	0.41	0.37	0.26		0.62
@FV.P	60 Min	0.05	0.13	0.36	0.40	0.48	0.36	0.62	

Correlation, monthly

< 0.15 very low

0.16-0.3 low

0.31-0.5 neutral

0.51-0.65 medium-high

> 0.65 high

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2.1. Bonds: Trend-following

	10 year US-T- Note, 60 Minute	Multi time frame Bond portfolio
Net Profit [\$]	70475	581243
Maximum DrawDown [\$]	4966	26613
Net Profit/Max. DD	14.2	21.8
No. of Trades	655	4419
Average Trade [\$]	107.6	131.5
% profitable Trades	41.2	41.9
Average Win/Loss	2.05	1.94
% of time in the market	37.4	84.4

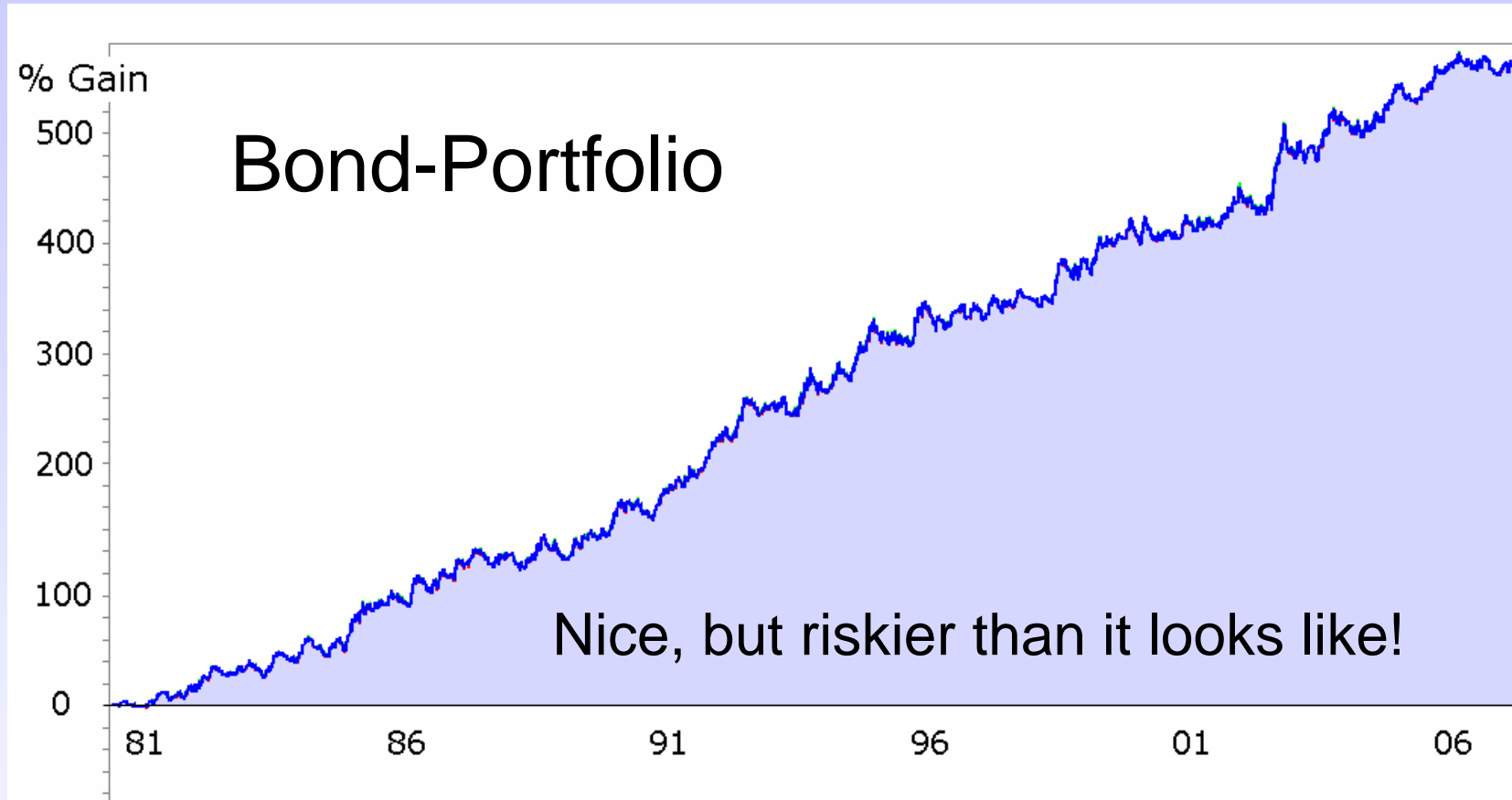
Theoretical Results: 1983-2006

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2.1. Bonds: Trend-following



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2.2. Stock Indices:

Bonds

Stocks

Macro-Economy



Psychology

Long Trends



False Breakouts

Slower movements



Fast movements

2.2. Stock Indices: Time

Europe: Markets follow the US
Opening direction

USA: Last Move before close



2.2. Stock Indices: EU follows US



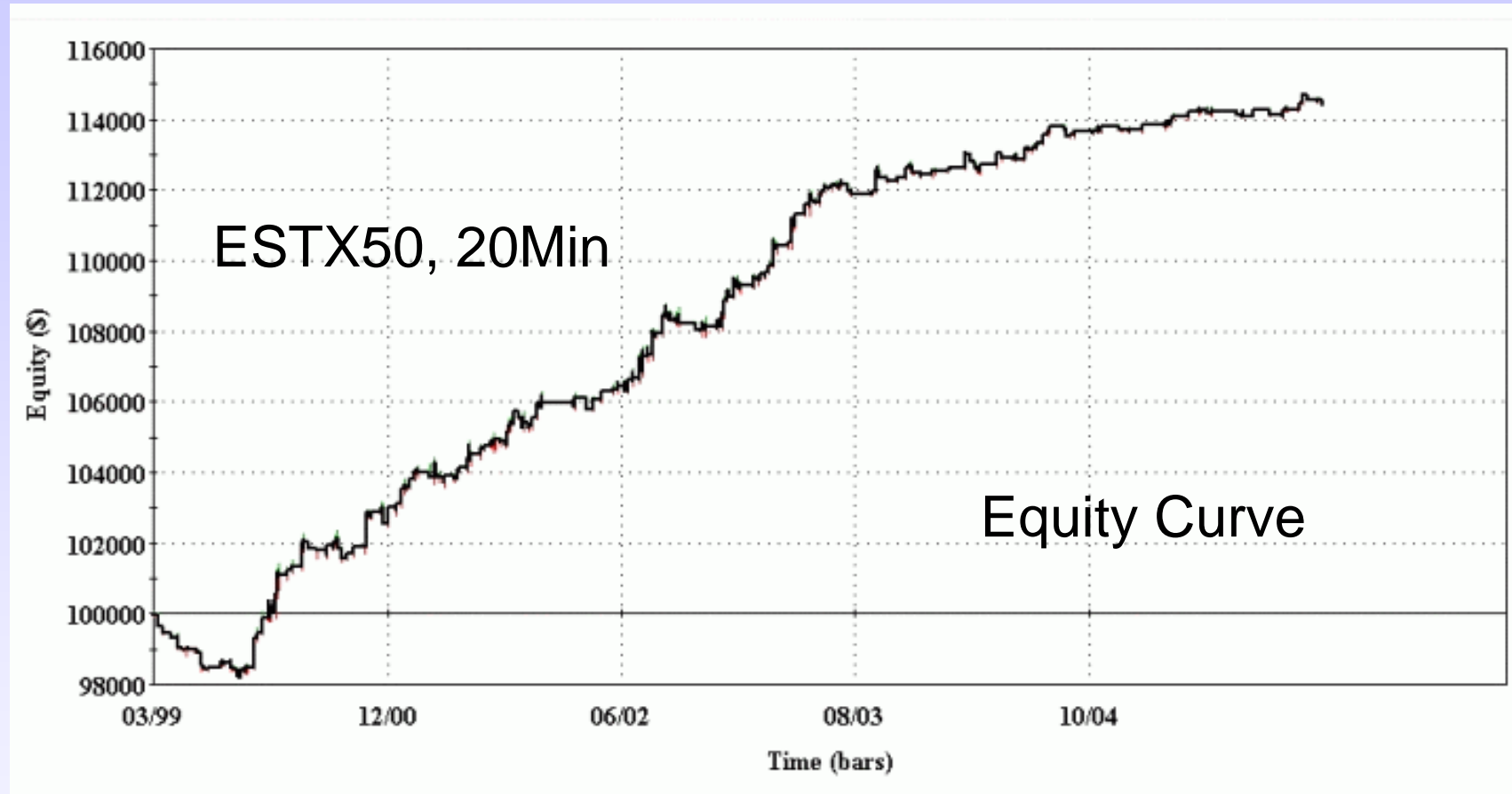
DJ S&P open

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2.2. Stock Indices: EU follows US



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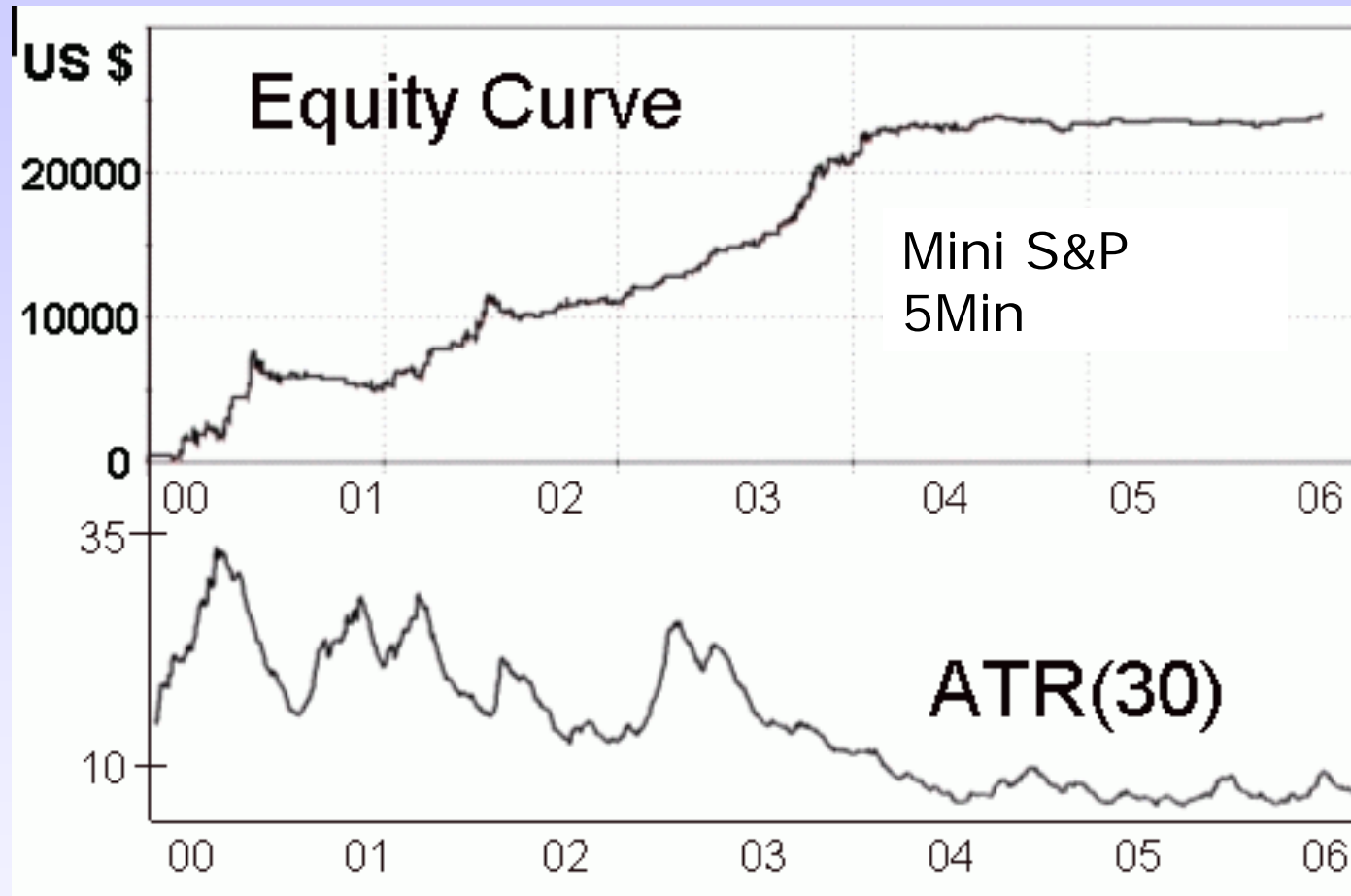
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2.2. Stock Indices: US last move



Volume and Time → Move

2.2. Stock Indices: US last move

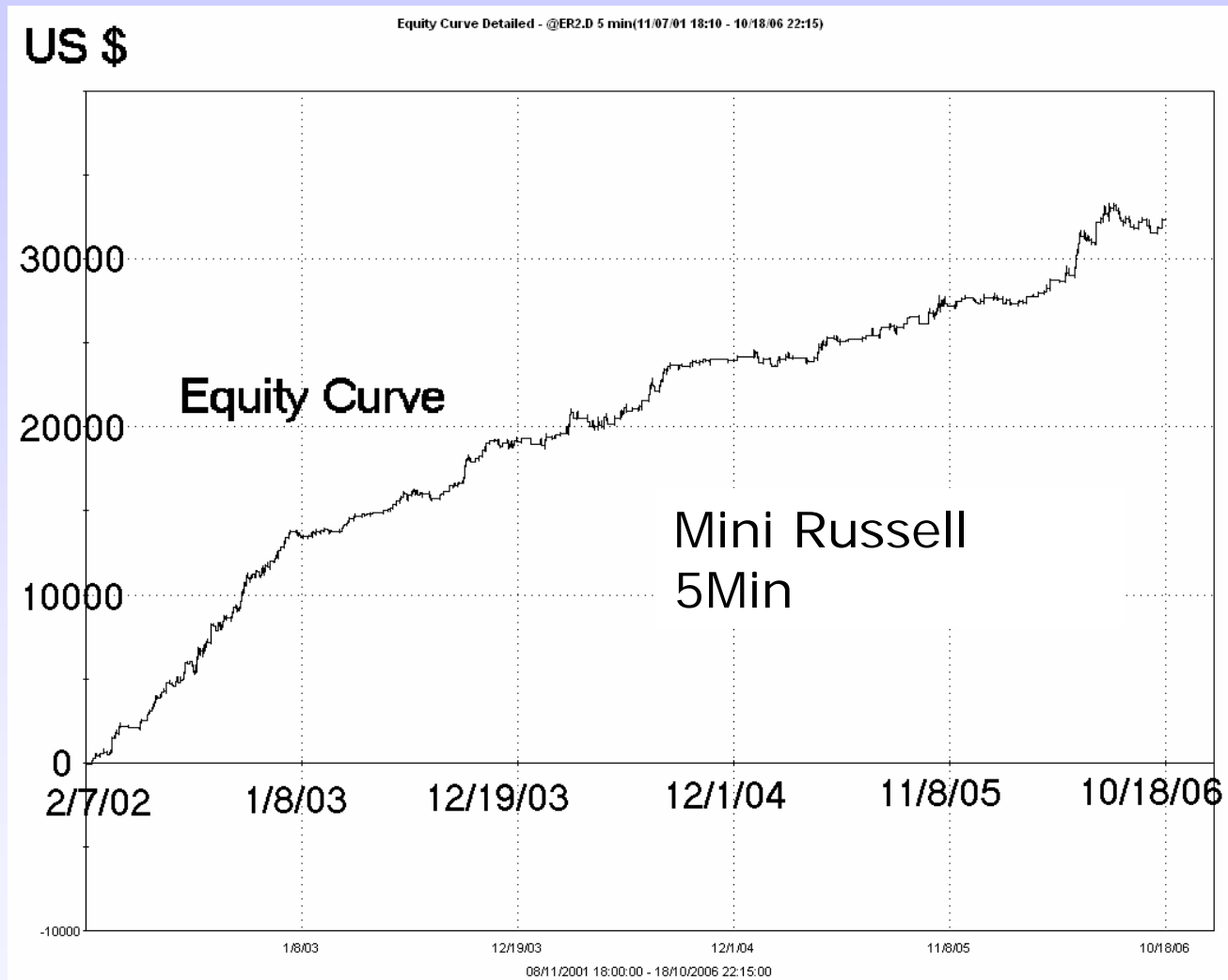


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2.2. Stock Indices: US last move

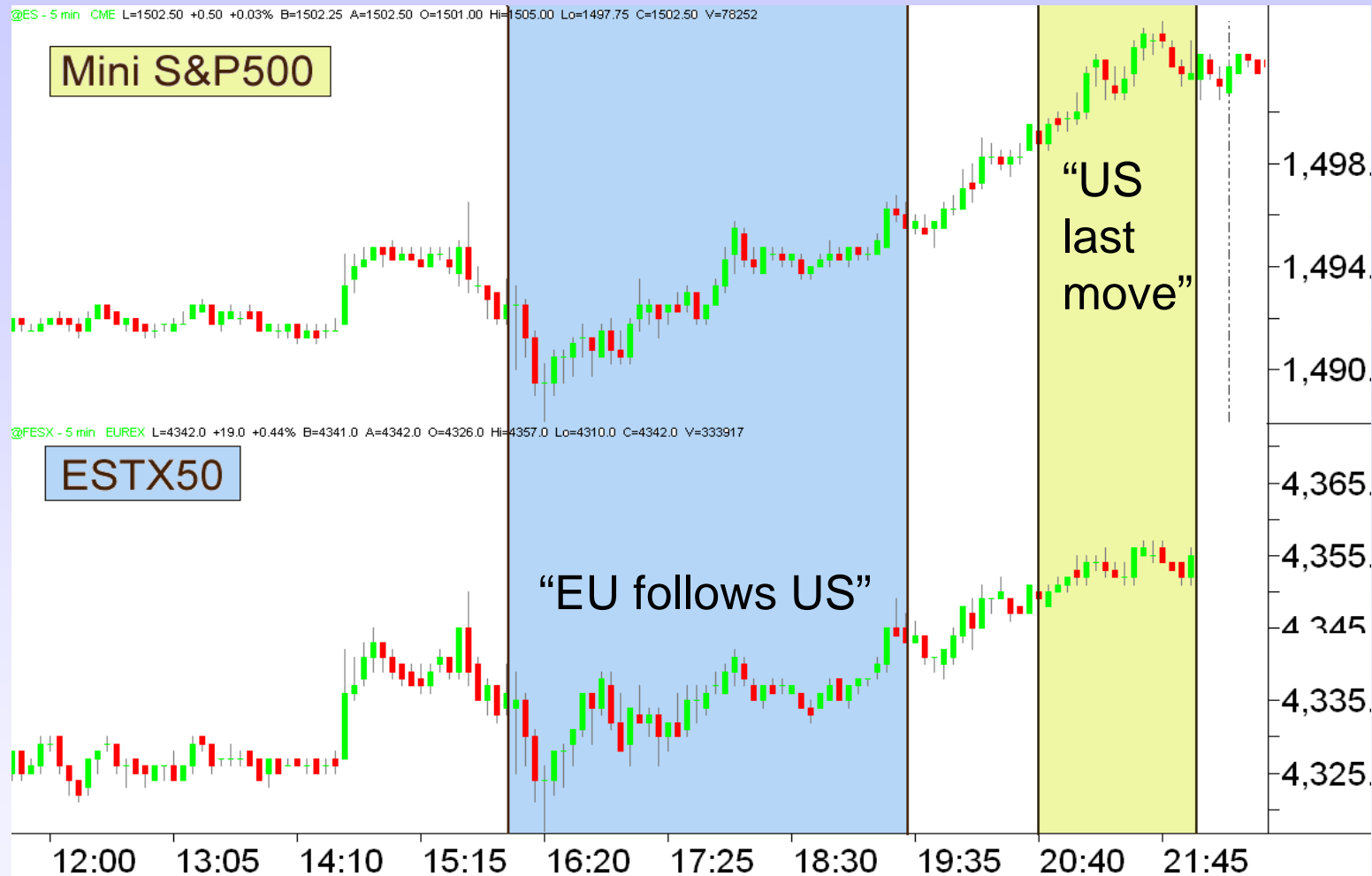


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2.2. Stock Indices: uncorrelated!



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2.2. Stock Indices: uncorrelated!

...different time windows

...low market exposure

→ can be traded with very small accounts

→ can be very well combined

2.3. Euro: (False-) Breakouts



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2.3. Euro: Weekday Filter



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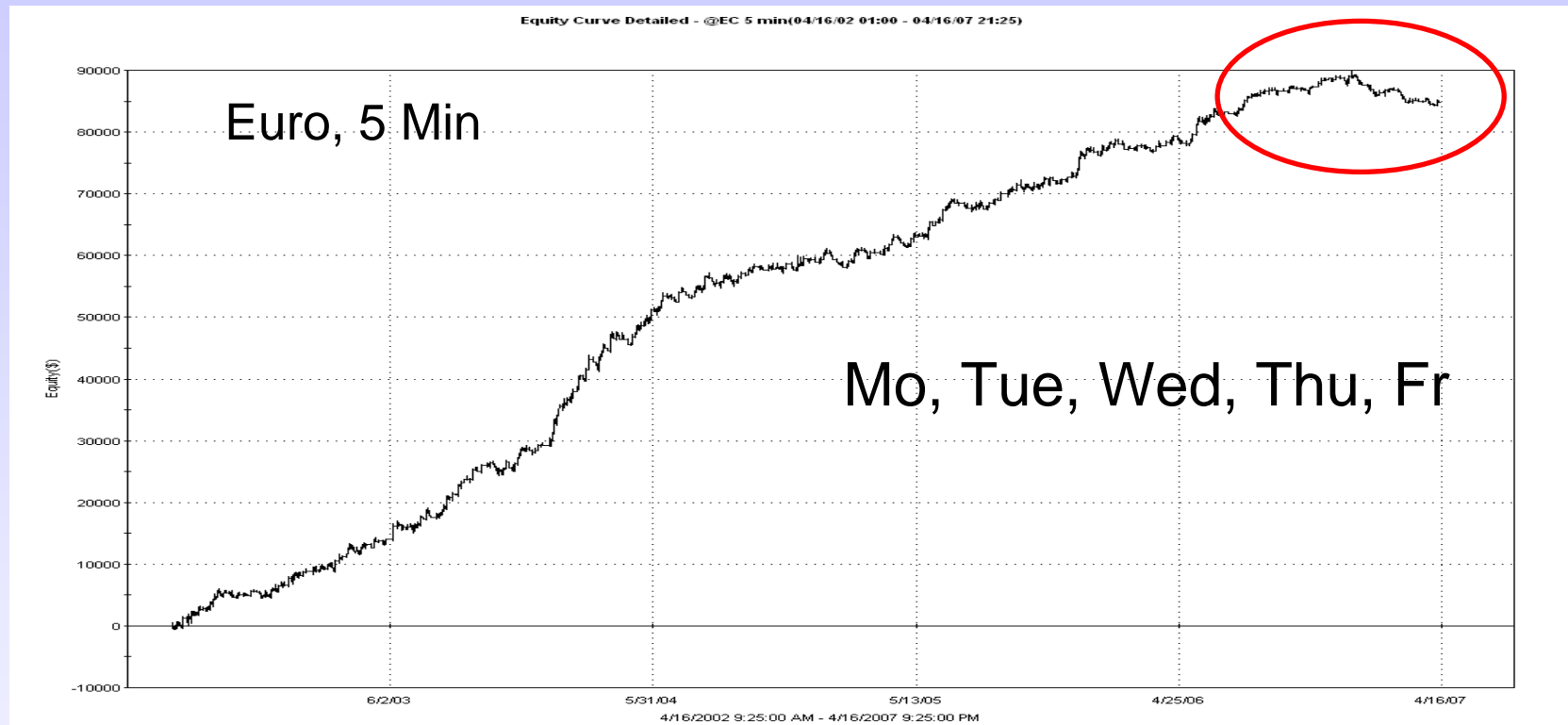
2.3. Euro: Weekday Filter

Weekday	Net Profit [\$]	Max Intraday Drawdown[\$]	ProfitFactor	% Profitable Trades	Avg Trade [\$]
Monday	22087.5	-1350	3.14	52.50	184
Tuesday	15637.5	-3987.5	1.63	39.87	99
Wednesday	15925	-3562.5	1.84	47.53	98
Thursday	15075	-2450	1.76	43.87	97
Friday	25787.5	-4050	2.10	45.40	158

Monday: High Return/ Low Risk

Friday: High Return/ High Risk

2.3. Euro: Breakouts with Weekday Filter

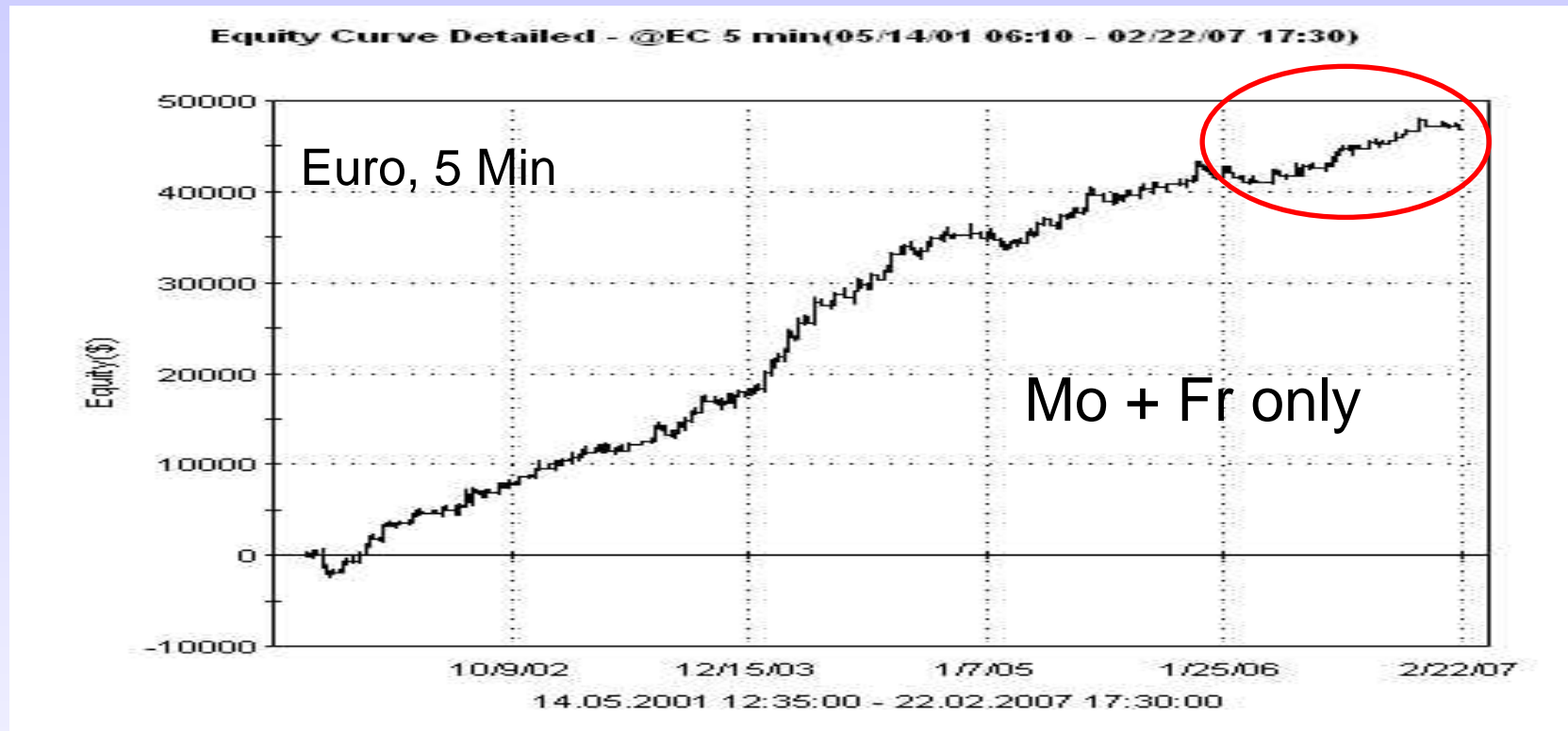


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2.3. Euro: Breakouts with Weekday Filter



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2.4. Universal: Triangle



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2.4. Universal: Triangle

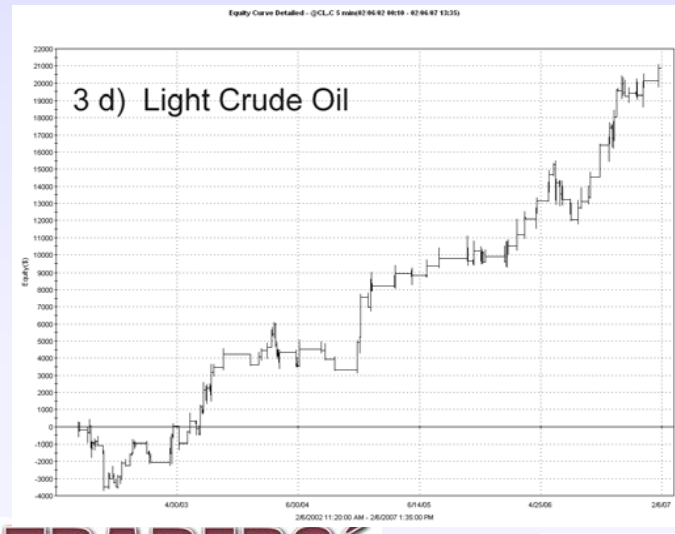
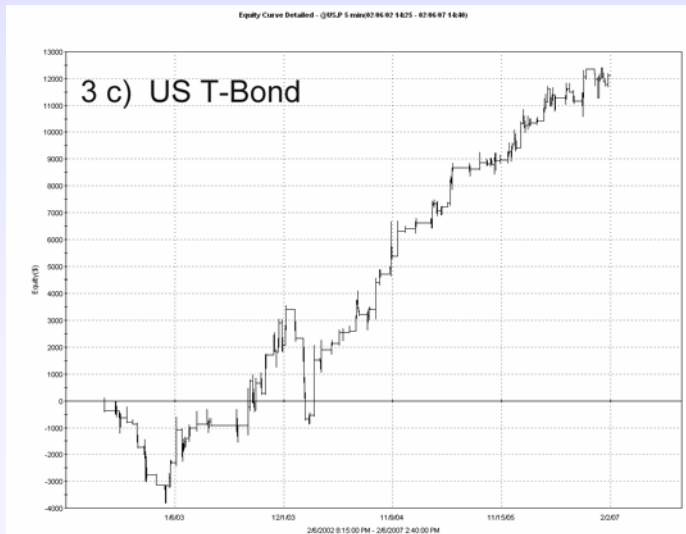
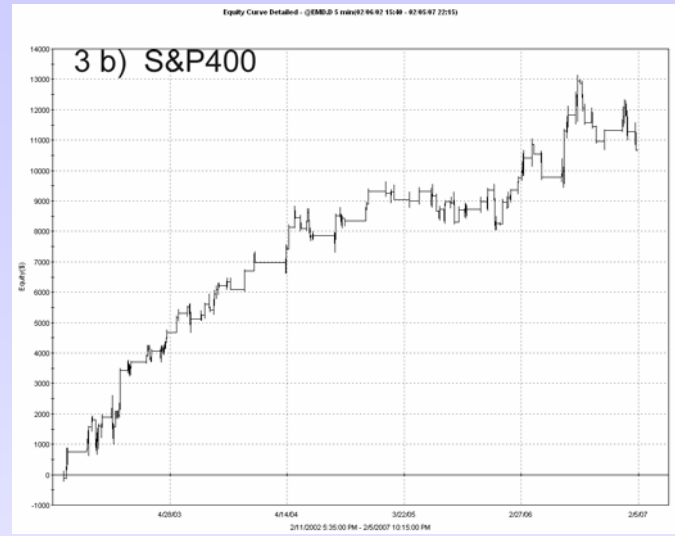


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2.4. Universal: Triangle



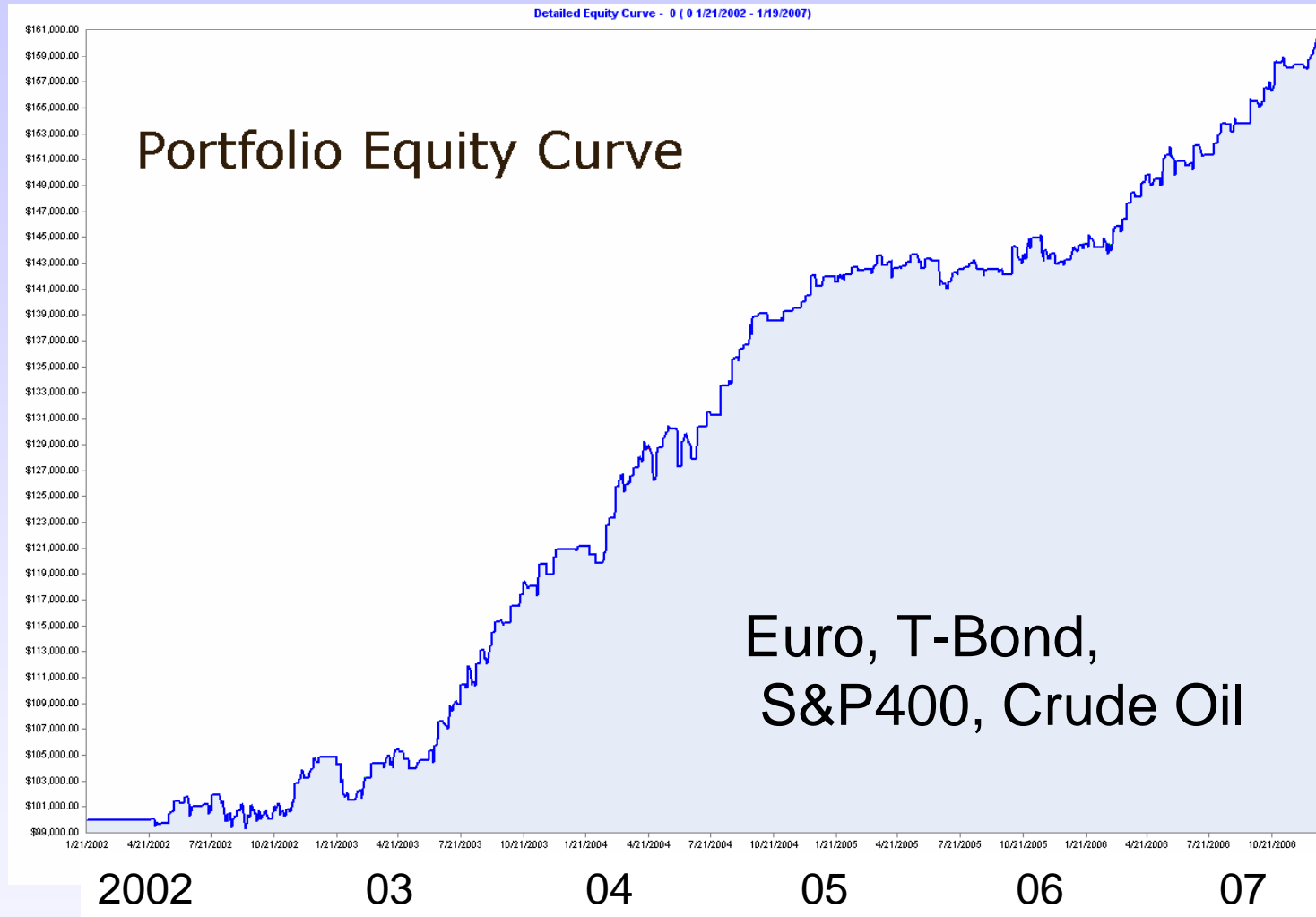
Same
parameters

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2.4. Universal: Triangle



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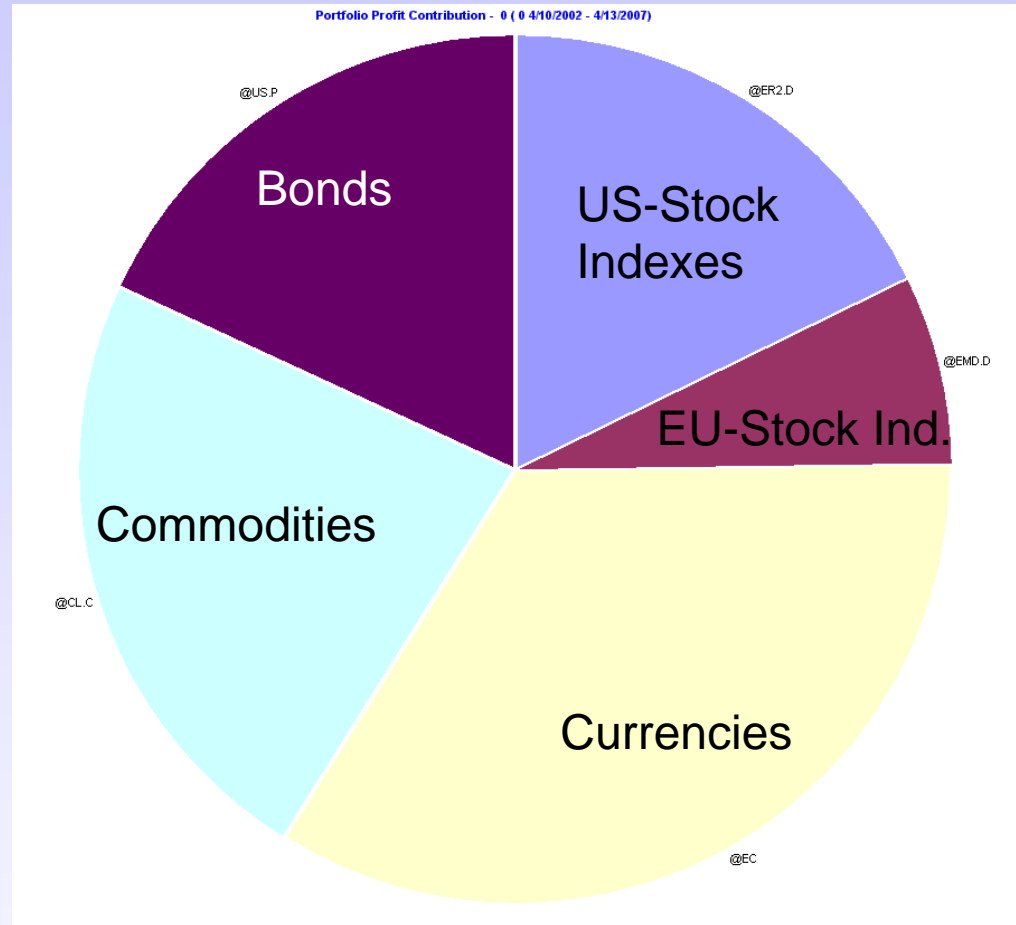
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2.4. Universal: Triangle

Market	Net Profit	Max. Drawdown	Net Profit Long	Net Profit Short	Number of Trades	Average Trade	Percent Profitable
1. Euro	\$15,915	-\$4,575	\$8,693	\$7,222	197	\$81	49%
2. S&P 400	\$11,280	-\$2,440	\$6,810	\$4,470	149	\$76	54%
3. US-T-Bond	\$12,019	-\$4,590	\$9,556	\$2,463	140	\$86	57%
4. Light Crude Oil	\$19,040	-\$3,050	\$9,570	\$9,470	139	\$137	53%
Portfolio	\$58,254	-\$3,275	\$34,629	\$23,625	625	\$93	53%
Correlations	S&P 400	Euro	Light Crude	US-T-Bond			
S&P 400		0.019	0.020	-0.002			
Euro	0.019		-0.002	0.024		2002-2007	
Light Crude Oil	0.020	-0.002		0.006			
US-T-Bond	-0.002	0.024	0.006				

Correlations nearly 0!

3. Building a system portfolio



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3. Building a system portfolio

Linear Correlation Coefficients based on Daily Equity

	@ER2.D	@EMD.D	@EC	@CL.C	@US.P
@ER2.D		0.36	-0.01	-0.11	0.07
@EMD.D	0.36		0.02	0.01	0.02
@EC	-0.01	0.02		0.07	-0.07
@CL.C	-0.11	0.01	0.07		-0.08
@US.P	0.07	0.02	-0.07	-0.08	

< 0.15 very low

0.16-0.3 low

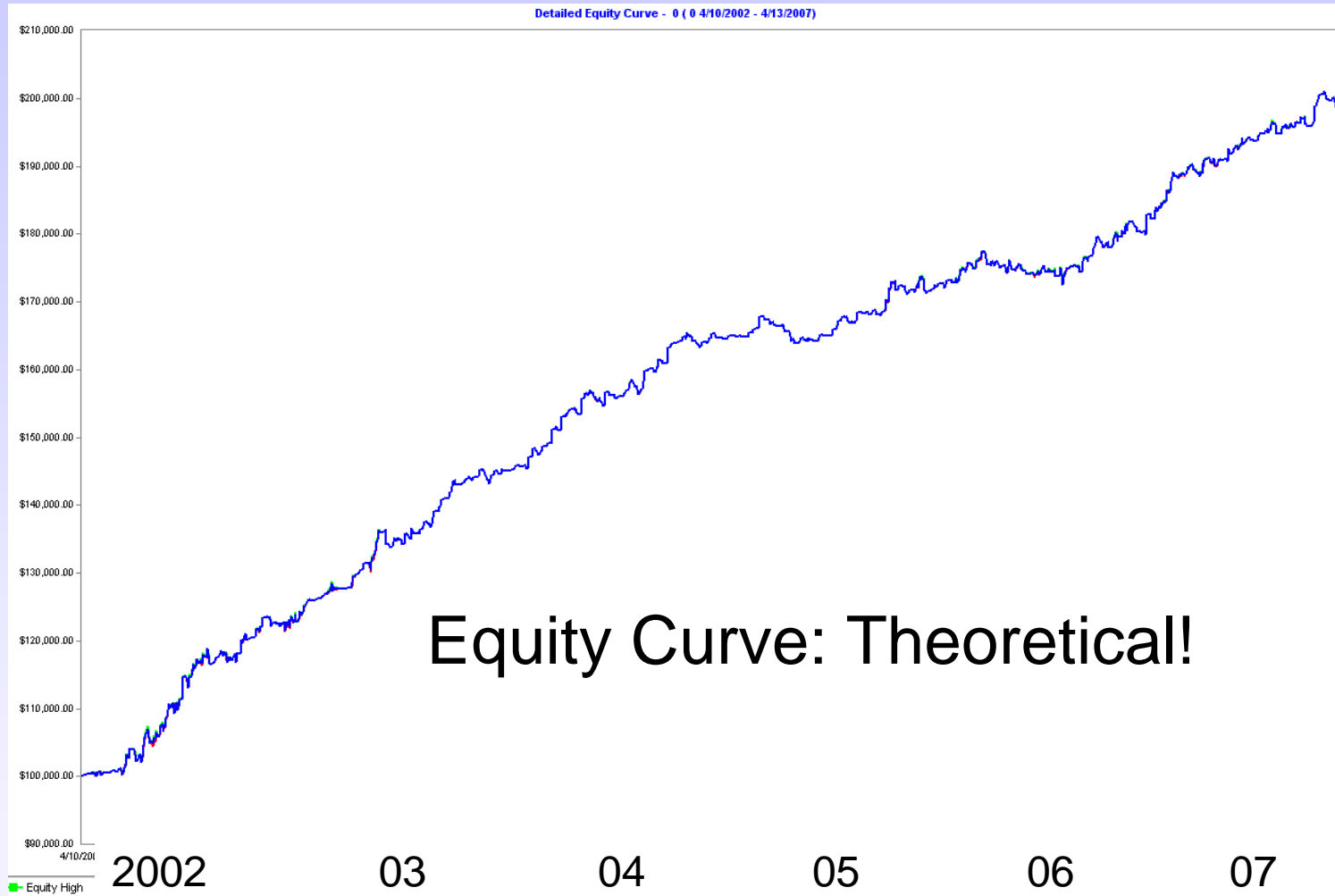
0.31-0.5 neutral

0.51-0.65 medium-high

> 0.65 high

not many signals simultaneously, small market exposure

3. Building a system portfolio

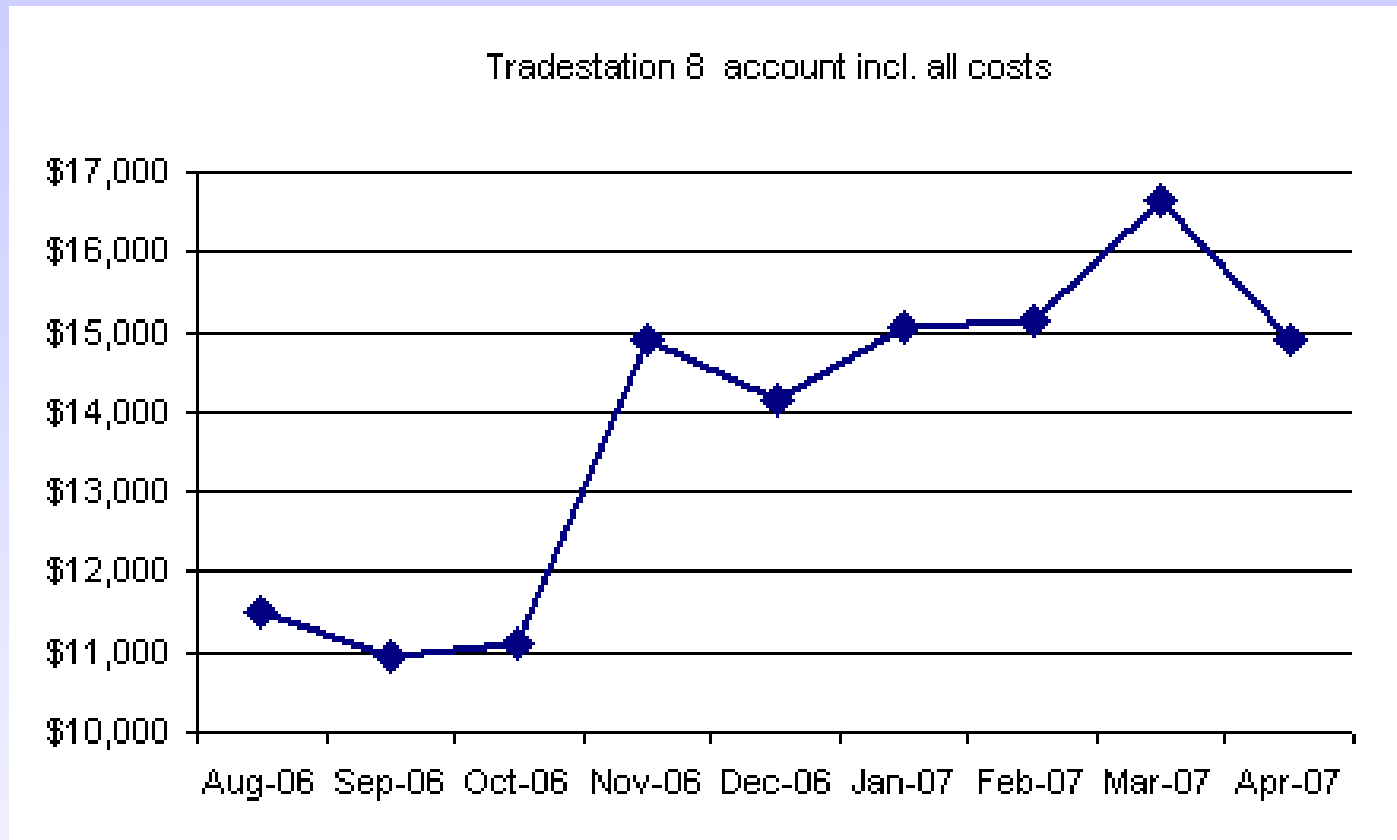


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3. Building a system portfolio



Equity: Real Traded

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4. Conclusion

- Different, robust strategies for each group
- Few signals, low correlation

Markets change, do the same!

4. Conclusion



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