Ranking Stock Returns R(t)
The k-day rank
$$A_k^m(t)$$
 for stock m belonging
to a set of stocks $\{s_1, ..., s_N\}$ is defined as :

$$A_k^m(t) = \frac{\#\{R_k^i(t) | R_k^m(t) \ge R_k^i(t), 1 \le i \le N\} - 1}{N - 1} - 0.5 \text{ where}$$

$$R_k^m(t) = \frac{Close^m(t) - Close^m(t-k)}{Close^m(t-k)} \approx \log\left(\frac{Close^m(t)}{Close^m(t-k)}\right)$$
The stock with highest return gets rank 0.5
The stock with highest return gets rank -0.5
The median stock onter rank=0

Nice things about ranks:

- Predicting the rank is (at least) as good as predicting the returns since we want to beat the market.
- Clear benchmark for predictions of A : hit rate for sign > 50%
- Uniform distribution (as opposed to the returns R).
- The effect of global events gets automatically incorporated.

A Rank Based Decision Support System for Stock Picking

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Time Series	Table 1: 1-	day pre	lictions	of 1-day	ranks $ \hat{A} $	(t+1)	> 0.00
Prediction of	Y ear:	93	94	95	96	97	93-97
	$Hitrate_+$	51.1	53.4	53.3	53.0	52.5	52.7
Ranks	Hitrate_	51.8	53.6	53.4	53.2	52.6	52.9
	Return+	0.389	-0.101	-0.094	0.238	0.172	0.212
Sliding windows:	#Pred+	7719	8321	8313	8923	8160	41510
Data from years	$#Pred_{-}$	7786	8343	8342	8943	8172	41664
Data nom years	#Pred	15505	16664	16655	17866	16332	83174
90-91 is used to							
predict 92 etc							
predict 92 etc.	Select	ed pr	edict	ions:			
predict 92 etc.	Select We se	ed pr lect t	edict he ex	ions: treme	•		
predict 92 etc. The ranks are	Select We sel rank p	ed pr lect ti redic	edict he ex tions	ions: treme	•		
predict 92 etc. The ranks are predictable !	Select We se rank p Table 2: 1-	ed pr lect t redic	edict he ex tions	ions: treme : of 1-day	ranks Â	$_{1}(t + 1) $	> 0.49
predict 92 etc. The ranks are predictable !	Select We se rank p Table 2: 1- Year :	ed pr lect t redic day pres	edict he ex tions dictions	ions: treme : of 1-day 95	ranks Â 96	(t+1) 97	> 0.49
predict 92 etc. The ranks are predictable ! Significant bit rate:	Select We se rank p Table 2: 1- Year : Hitrate ₊	ed pr lect t redic day pres 93 59.7	edict he ex tions dictions 94 65.1	ions: treme : of 1-day 95 67.9	ranks Â 96 66.7	$\frac{1}{(t+1)}$ 97 61.2	> 0.49 93-97 64.2
predict 92 etc. The ranks are predictable ! Significant hit rate:—	Select We se rank p Table 2: 1- Year : Hitrate+ Hitrate_	ed pr lect t redic day pres 93 59.7	edict he ex tions dictions 94 65.1	ions: treme : of 1-day 95 67.9 56.4	ranks Â 96 66.7 59.4	(t + 1) 97 61.2 56.7	> 0.49 93-97 64.2 55.7
predict 92 etc. The ranks are predictable ! Significant hit rate:— Good separation—	Select We se rank p Table 2: 1- Year : Hitrate_ Hitrate_ Return_ Between	ed pr lect t redic -day pre- -day pre- -day 59.7 59.7 1.468	edict he ex tions dictions 65.1 53.2 0.532	ions: treme : of 1-day 95 67.9 56.4 0.888	ranks Â 96 66.7 59.4 0.770	(t + 1) 97 61.2 56.7 0.745	> 0.49 93-97 64.2 55.7 0.895
predict 92 etc. The ranks are predictable ! Significant hit rate: Good separation	Select We se rank p Table 2: 1- Year : Hitrate_ Return_ #Pred_	ed pr lect tl redic -day pres 93 59.7 52.7 1.468 1.138 211	edict he ex tions dictions dictions -0.236 -0.236 215	ons: treme of 1-day 95 67.9 56.4 0.888 -0.402 218	ranks Â 96 66.7 59.4 0.770 -0.040 228	(t + 1) 97 61.2 56.7 0.745 -0.055 214	> 0.49 93-97 64.2 55.7 0.895 0.085
predict 92 etc. The ranks are predictable ! Significant hit rate:— Good separation— for the positive and	Select We se rank p Table 2: 1- Year : Hitrate_ Hitrate_ Heturn_ #Pred.	ed pr lect tl redic -day pre- 93 59.7 52.7 1.468 1.138 211 222	edict he ex tions dictions 4 65.1 53.2 0.583 -0.236 215 220	ons: treme of 1-day 95 67.9 56.4 0.888 -0.402 218 220	ranks Â 96 66.7 59.4 0.770 -0.040 228 234	(t + 1) 97 61.2 56.7 0.745 -0.055 214 217	> 0.49 93-97 64.2 55.7 0.895 0.085 1088 1115

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