Security
i
Return
v%
Excessive Return

Var_M   10

Security		E(ri)	E(ri)-rf	beta_i	var_eps_i	(E(ri)-rf)/beta_i		(ri-rf)*beta	beta_i^2/va
	1	15	10	1	50	10		0.2	0.02
	2	17	12	1.5	40	8		0.45	0.05625
	3	12	7	1	20	7		0.35	0.05
	4	17	12	2	10	6		2.4	0.4
	5	11	6	1	40	6		0.15	0.025
	6	11	6	1.5	30	4		0.3	0.075
	7	11	6	2	40	3		0.3	0.1
	8	7	2	0.8	16	2.5		0.1	0.04
	9	7	2	1	20	2		0.1	0.05
	10	5.6	0.6	0.6	6	1		0.06	0.06

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ar_eps_i	accum	accum		Ci	Selection		Zi	wi
0.2	0.02		1.666667	long			0.090979	0.23477
0.65	0.07625		3.687943	long			0.095585	0.246657
1	0.12625		4.41989	long			0.077447	0.199851
3.4	0.52625		5.429142	long			0.109789	0.283309
3.55	0.55125		5.451056	long	C*	0.013724	0.035414
3.85	0.62625		5.301205	short			
4.15	0.72625		5.022693	short			
4.25	0.76625		4.906205	short			
4.35	0.81625		4.747613	short			
4.41	0.87625		4.517286	short			

Sum_Zi	0.387524		1
Rp	15.31872		
Beta_p	1.406637		
Sys_var_p			
Unsys_var_p			
Var_p			
Sigma_p			

c*=LAST C_n
SHORT SELLING ALLOWED!!!

Zi	Wi
0.109654	6.15451
0.130602	7.330219
0.124136	6.967301
0.296543	16.64391
0.037068	2.080489
-0.02586	-1.45167
-0.07586	-4.25799
-0.10086	-5.66116
-0.12586	-7.06432
-0.35173	-19.7413

Sum_Zi	0.017817	1
Rp	343.935	
Beta_p	25.35393	
Sys_var_p	6428.22	
Unsys_var_	12595.01	
Var_p	19023.23	
Sigma_p	137.9247	

i	v%			(ri-rf)/beta_i		
1	19	1	20	16	0.8	0.05
3	11	0.5	10	16	0.4	0.025
2	23	1.5	30	13.33333	1	0.075
6	9	0.5	50	12	0.06	0.005
4	25	2	40	11	1.1	0.1
5	13	1	20	10	0.5	0.05
7	14	1.5	30	7.333333	0.55	0.075
8	10	1	50	7	0.14	0.02
9	9.5	1	50	6.5	0.13	0.02
11	11	1.5	30	5.333333	0.4	0.075
10	13	2	20	5	1	0.2
12	8	1	20	5	0.25	0.05
14	7	1	20	4	0.2	0.05
13	10	2	40	3.5	0.35	0.1

Unsystematic risk

Security	Return	Beta	v %

$r_f = 3\%$

$\sigma_M^2 = 10$

rf	3
var_M	10

accum	accum	Ci	selection		Zi	wi
0.8	0.05	5.333333	long		0.323457	0.337411
1.2	0.075	6.857143	long		0.323457	0.337411
2.2	0.15	8.8	long		0.190123	0.198326
2.26	0.155	8.862745	long		0.024691	0.025757
3.36	0.255	9.464789	long		0.073457	0.076626
3.86	0.305	9.530864	long	C*	0.023457	0.024469
4.41	0.38	9.1875	short	C*		
4.55	0.4	9.1	short			
4.68	0.42	9	short			
5.08	0.495	8.537815	short			
6.08	0.695	7.647799	short			
6.33	0.745	7.491124	short			
6.53	0.795	7.296089	short			
6.88	0.895	6.914573	short			

				sum_Zi	0.958642	1
				Rp	17.14939	
				Beta_p	0.994205	
				Sys_Var_p	9.884431	
				Unsys_Var_	4.875394	
				Var_p	14.75983	
				Sigma_p	3.841852	
					4.463834	5.031497

SHORT SELLING ALLOWED	Zi	wi
	0.454271	0.468066
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	0.320938	0.330684
	0.050854	0.052399
	0.204271	0.210475
	0.154271	0.158956
	0.020938	0.021574
	0.001709	0.00176
	-0.00829	-0.00854
	-0.07906	-0.08146
	-0.19146	-0.19727
	-0.09573	-0.09864
	-0.14573	-0.15015
	-0.17073	-0.17591
sum_Zi	0.970528	1
Rp	22.62617	
Beta_p	0.712455	
Sys_Var_p	5.075922	
Unsys_Var_p	15.14624	
Var_p	20.22216	
Sigma_p	4.496906	