

Market	Security	r_i	risk	Correlation _{A,B}
I	A	0.22	0.3	0.15
	B	0.31	0.32	
II	A	0.26	0.29	-0.06
	B	0.34	0.33	
III	A	0.18	0.2	0.09
	B	0.41	0.38	

Market	Rp
I	0.261589
II	0.295149
III	0.224674

3.056235
-3.05623
0.537897

I Market Cov_M

0.09 0.0144
0.0144 0.1024

Sys Eq

0.18	0.0288	1
0.0288	0.2048	1
1	1	0

3.056235 -3.05623 0.537897311
-3.05623 3.056235 0.462102689
0.537897 0.462103 -0.110130073

Proof 1.00 0.00 0.00
0.00 1.00 0.00
0.00 0.00 1.00

II Market Cov_M

0.0841 -0.00574
-0.00574 0.1089

Sys Eq

0.1682	-0.01148	1
-0.01148	0.2178	1
1	1	0

Inv Matr

2.445179 -2.44518 0.560640441
-2.44518 2.445179 0.439359559
0.56064 0.43936 -0.089254117

VRS

0
0
1

wi

w1 0.537897
w2 0.462103
lambda1 -0.11013

Proof 1

Market III Cov_M

0.04 0.00684
0.00684 0.1444

Sys Eq

0.08	0.01368	1
0.01368	0.2888	1
1	1	0

Inv_M

2.928772 -2.92877 0.805763824
-2.92877 2.928772 0.194236176
0.805764 0.194236 -0.067118257

VRS

0
0
1

w1 0.56064
w2 0.43936
lambda1 -0.08925

Proof 1

VRS

0
0
1

w1 0.805764
w2 0.194236
lambda1 -0.06712

Proof 1

Sigma_p

0.234659	1.114761	0.897053
0.211251	1.397146	0.715745
0.183192	1.226445	0.815365

Exp_port_ret

Rp 0.3

-3.05623	0.537897
3.056235	0.462103
0.462103	-0.11013

Sys Eq

0.18	0.0288	1	0.22
0.0288	0.2048	1	0.31
1	1	0	0
0.22	0.31	0	0

Inv_M

0	2.52E-15	3.444444	-11.1111
0	-2.5E-15	-2.44444	11.11111
3.444444	-2.44444	-2.87432	10.56691
-11.1111	11.11111	10.56691	-40.3951

Rp

Sigma_p

0.261589	0.234659
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Rp 0.3

Sys Eq

0.1682	-0.01148	1	0.26
-0.01148	0.2178	1	0.34
1	1	0	0
0.26	0.34	0	0

Inv_M

0	-3.9E-15	4.25	-12.5
0	3.87E-15	-3.25	12.5
4.25	-3.25	-5.65587	18.86038
-12.5	12.5	18.86038	-63.9012

Rp

Sigma_p

0.295149	0.211251
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Sys Eq

0.08	0.01368	1	0.18
0.01368	0.2888	1	0.41
1	1	0	0
0.18	0.41	0	0

Inv_M

0	8.07E-16	1.782609	-4.34783
0	-8.1E-16	-0.78261	4.347826
1.782609	-0.78261	-0.39293	1.450147
-4.34783	4.347826	1.450147	-6.45444

Rp

Sigma_p

0.224674	0.183192
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VRS	
	0
	0
	1
	0.3

w1 0.111111
w2 0.888889
lambda1 0.295753
lambda2 -1.5516

proof 1

Rp	Sigma_p
0.3	0.291315

VRS	
	0
	0
	1
	0.3

w1 0.5
w2 0.5
lambda1 0.002242
lambda2 -0.31

proof 1

Rp	Sigma_p
0.3	0.213023

VRS	
	0
	0
	1
	0.3

w1 0.478261
w2 0.521739
lambda1 0.042115
lambda2 -0.48619

proof 1

Rp	Sigma_p
0.3	0.22775