

Ceny akcií (denní):

Datum	ABC	CEZ	KOBA
1	1,856.00	1,089.00	4,266.00
2	1,913.00	1,072.00	4,108.00
3	1,905.00	1,074.00	4,008.00
4	1,868.00	1,082.00	3,921.00
5	1,860.00	1,086.00	3,987.00
6	1,865.00	1,092.00	4,035.00
7	1,859.00	1,100.00	3,986.00
8	1,832.00	1,093.00	4,032.00
9	1,871.00	1,102.00	3,953.00
10	1,853.00	1,107.00	4,052.00
11	1,854.00	1,099.00	4,047.00
12	1,862.00	1,102.00	3,994.00
13	1,870.00	1,109.00	4,030.00
14	1,864.00	1,114.00	4,133.00
15	1,834.00	1,123.00	4,271.00
16	1,808.00	1,140.00	4,257.00
17	1,814.00	1,159.00	4,261.00
18	1,836.00	1,203.00	4,318.00
19	1,807.00	1,186.00	4,239.00
20	1,812.00	1,224.00	4,216.00
21	1,843.00	1,226.00	4,274.00
22	1,834.00	1,219.00	4,266.00
23	1,831.00	1,238.00	4,142.00
24	1,860.00	1,246.00	4,208.00
25	1,878.00	1,273.00	4,175.00
26	1,872.00	1,255.00	4,228.00
27	1,938.00	1,243.00	4,300.00
28	1,975.00	1,265.00	4,273.00
29	1,954.00	1,277.00	4,316.00
30	2,010.00	1,293.00	4,294.00
31	2,054.00	1,279.00	4,239.00
32	2,063.00	1,268.00	4,242.00
33	2,053.00	1,266.00	4,280.00
34	2,047.00	1,261.00	4,295.00
35	2,010.00	1,245.00	4,236.00
36	2,015.00	1,257.00	4,230.00
37	2,072.00	1,270.00	4,292.00
38	2,036.00	1,301.00	4,326.00
39	2,064.00	1,343.00	4,293.00
40	2,161.00	1,384.00	4,396.00
41	2,213.00	1,360.00	4,465.00
42	2,175.00	1,344.00	4,509.00
43	2,213.00	1,365.00	4,459.00
44	2,201.00	1,375.00	4,495.00
45	2,183.00	1,385.00	4,498.00
46	2,059.00	1,411.00	4,441.00
47	2,046.00	1,386.00	4,369.00
48	1,996.00	1,392.00	4,319.00
49	1,909.00	1,372.00	4,458.00
50	1,945.00	1,337.00	4,478.00
51	1,928.00	1,300.00	4,496.00
52	1,992.00	1,324.00	4,401.00
53	1,966.00	1,330.00	4,382.00
54	1,929.00	1,325.00	4,344.00

Výnosy akcií (30-denní):

ABC	CEZ	KOBA
0.1067	0.1745	-0.0063
0.0784	0.1828	0.0326
0.0777	0.1788	0.0679
0.0958	0.1654	0.0954
0.0806	0.1464	0.0625
0.0804	0.1511	0.0483
0.1146	0.1545	0.0768
0.1114	0.1903	0.0729
0.1032	0.2187	0.0860
0.1662	0.2502	0.0849
0.1936	0.2375	0.1033
0.1681	0.2196	0.1289
0.1834	0.2308	0.1065
0.1808	0.2343	0.0876
0.1903	0.2333	0.0531
0.1388	0.2377	0.0432
0.1279	0.1959	0.0253
0.0871	0.1571	0.0002
0.0564	0.1568	0.0517
0.0734	0.0923	0.0621
0.0461	0.0604	0.0519
0.0862	0.0861	0.0316
0.0737	0.0743	0.0579
0.0371	0.0634	0.0323
0.0202	0.0353	0.0271
0.0150	0.0637	0.0078
-0.0351	0.0684	-0.0121
-0.0420	0.0711	-0.0199
-0.0210	0.0807	-0.0280
-0.0493	0.0665	-0.0282
-0.0847	0.0602	-0.0130
-0.0722	0.0450	-0.0200
-0.0755	0.0506	-0.0262
-0.0669	0.0508	-0.0184
-0.0209	0.0602	0.0158
0.0094	0.0613	0.0338
-0.0193	0.0693	0.0084
0.0000	0.0792	0.0162
-0.0208	0.0558	0.0116
0.0563	0.1285	0.0362

Průměry:

ABC
CEZ
KOBA

55	1,916.00	1,318.00	4,288.00
56	1,900.00	1,335.00	4,261.00
57	1,870.00	1,328.00	4,248.00
58	1,892.00	1,355.00	4,188.00
59	1,913.00	1,380.00	4,195.00
60	1,911.00	1,379.00	4,173.00
61	1,880.00	1,356.00	4,184.00
62	1,914.00	1,325.00	4,157.00
63	1,898.00	1,330.00	4,168.00
64	1,910.00	1,325.00	4,216.00
65	1,968.00	1,320.00	4,303.00
66	2,034.00	1,334.00	4,373.00
67	2,032.00	1,358.00	4,328.00
68	2,036.00	1,404.00	4,396.00
69	2,021.00	1,418.00	4,343.00

Kovariance:

ABC	CEZ	KOBA
0.006654	0.005202	0.002879
0.005202	0.005083	0.002158
0.002879	0.002158	0.0018

Markowitzův model

Průměrné výnosy, tj. R_i :

0.0563	0.1285	0.0362
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Kovarianční matice, tj. S_{ij} :

	ABC	CEZ	KOBA
ABC	0.0065	0.0051	0.0028
CEZ	0.0051	0.0050	0.0021
KOBA	0.0028	0.0021	0.0018

suma:

Z_i :

0.0000	0.0000	0.0000	
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$Z_i * \text{Kov.mat.}$:

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$Z_i * Z_i * \text{Kov.mat.}$:

Rozptyl PF

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Riziko PF

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Výnos:

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Zadaný výnos:

0.07

$$\hat{R}_{PF} = \sum \hat{R}_i Z_i \quad \sigma_{PF} = \sqrt{\sum_{i,j=1}^M \sigma_{ij} Z_i Z_j}$$

Sharpeho model

Průměrné výnosy, tj. R_i :

0.0563	0.1285	0.0362
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Kovarianční matice, tj. S_{ij} :

	ABC	CEZ	KOBA
ABC	0.0065	0.0051	0.0028
CEZ	0.0051	0.0050	0.0021
KOBA	0.0028	0.0021	0.0018

Z_i :

0.0000	0.0000	0.0000	suma:	0.0000
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$Z_i * \text{Kov.mat.}$:

0.0000	0.0000	0.0000
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$Z_i * Z_i * \text{Kov.mat.}$:

Rozptyl PF **0**

Riziko PF **0**

Zadané riziko:

0.07

Výnos: **0**

$$\hat{R}_{PF} = \sum \hat{R}_i Z_i \quad \sigma_{PF} = \sqrt{\sum_{i,j=1}^M \sigma_{ij} Z_i Z_j}$$

Markowitzův model s bankovním účtem

Průměrné výnosy, tj. R_i :

0.0563	0.1285	0.0362	0.0020
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Kovarianční matice, tj. S_{ij} :

	ABC	CEZ	KOBA	Účet
ABC	0.0065	0.0051	0.0028	0.0000
CEZ	0.0051	0.0050	0.0021	0.0000
KOBA	0.0028	0.0021	0.0018	0.0000
Účet	0.0000	0.0000	0.0000	0.0000

suma: **0**

Z_i :

0.0000	0.0000	0.0000	0.0000
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$Z_i * Kov.mat.:$

0.0000	0.0000	0.0000	0.0000
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$Z_i * Z_i * Kov.mat.:$ Rozptyl PF **0**

Riziko PF **0**

Výnos: **0**

Zadaný výnos: **0.07**

$$\hat{R}_{PF} = \sum \hat{R}_i Z_i \quad \sigma_{PF} = \sqrt{\sum_{i,j=1}^M \sigma_{ij} Z_i Z_j}$$

Sharpeho model s bankovním účtem

Průměrné výnosy, tj. R_i :

0.0563	0.1285	0.0362	0.0020
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Kovarianční matice, tj. S_{ij} :

	ABC	CEZ	KOBA	Účet
ABC	0.0065	0.0051	0.0028	0.0000
CEZ	0.0051	0.0050	0.0021	0.0000
KOBA	0.0028	0.0021	0.0018	0.0000
Účet	0.0000	0.0000	0.0000	0.0000

Z_i :

0.0000	0.0000	0.0000	0.0000
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 suma: **0**

$Z_i * Kov.mat.:$

0.0000	0.0000	0.0000	0.0000
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$Z_i * Z_i * Kov.mat.:$ Rozptyl PF **0**
 Riziko PF

0

 Zadané riziko:

0.07

 Výnos:

0

$$\hat{R}_{PF} = \sum \hat{R}_i Z_i \quad \sigma_{PF} = \sqrt{\sum_{i,j=1}^M \sigma_{ij} Z_i Z_j}$$