Principal Component Analysis of Stock Returns

The PRINCOMP Procedure

Observations	103
Variables	5

Simple Statistics					
	JPM	Citi	WF	RDS	EM
Mean	0.0010627806	0.0006554204	0.0016260816	0.0040491252	0.0040386417
StD	0.0208151256	0.0209455772	0.0149657006	0.0268792933	0.0276708181

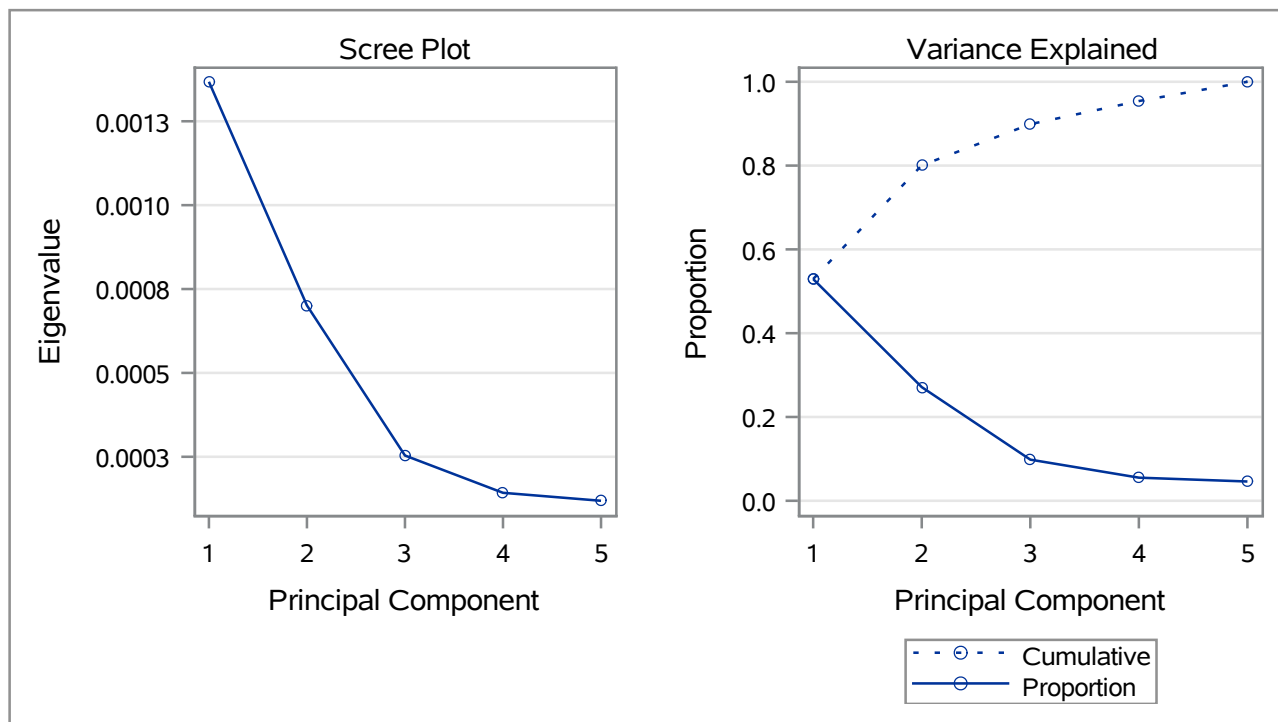| Covariance Matrix					
	JPM	Citi	WF	RDS	EM
JPM	0.0004332695	0.0002756679	0.0001590265	0.0000641193	0.0000889662
Citi	0.0002756679	0.0004387172	0.0001799737	0.0001814512	0.0001232623
WF	0.0001590265	0.0001799737	0.0002239722	0.0000734135	0.0000605461
RDS	0.0000641193	0.0001814512	0.0000734135	0.0007224964	0.0005082772
EM	0.0000889662	0.0001232623	0.0000605461	0.0005082772	0.0007656742

Total Variance	0.0025841294

Eigenvalues of the Covariance Matrix				
	Eigenvalue	Difference	Proportion	Cumulative
1	0.00136768	0.00066652	0.5293	0.5293
2	0.00070116	0.00044736	0.2713	0.8006
3	0.00025380	0.00011120	0.0982	0.8988
4	0.00014260	0.00002372	0.0552	0.9540
5	0.00011889		0.0460	1.0000

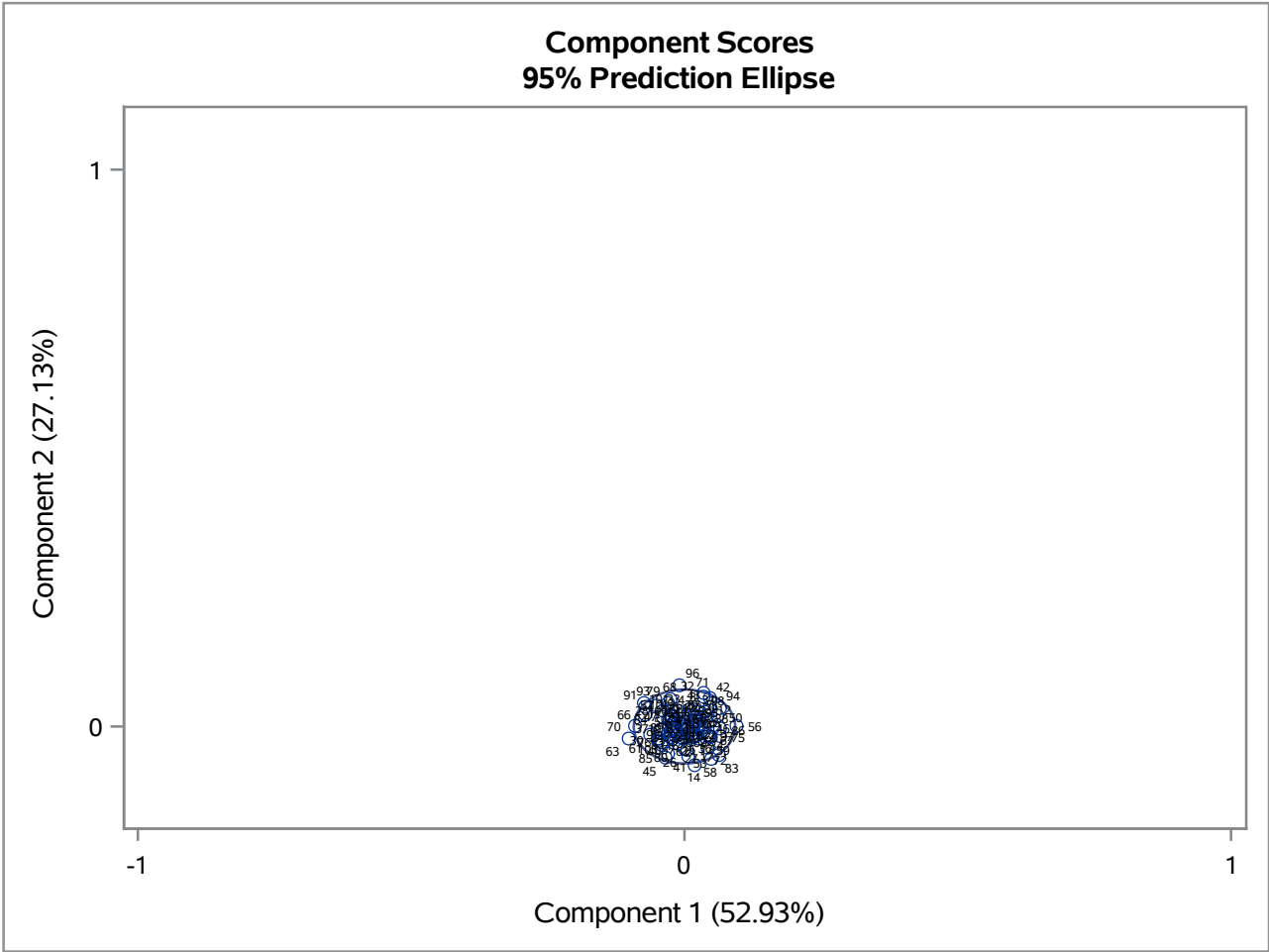| Eigenvectors					
	Prin1	Prin2	Prin3	Prin4	Prin5
JPM	0.222823	0.625226	0.326112	-.662759	0.117660
Citi	0.307290	0.570390	-.249590	0.414094	-.588608
WF	0.154810	0.344505	-.037639	0.497050	0.780304
RDS	0.638968	-.247948	-.642497	-.308869	0.148455
EM	0.650904	-.321848	0.645861	0.216376	-.093718

Principal Component Analysis of Stock Returns

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Principal Component Analysis of Stock Returns

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Component Scores
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Principal Component Analysis of Stock Returns

Obs	Prin1	Prin2	Prin3	Prin4	Prin5
1	-0.03112	0.012704	0.038332	0.001487	-0.004704
2	0.01657	0.006085	-0.000262	-0.002573	-0.014390
3	-0.01500	-0.009989	-0.008160	0.011957	0.010153
4	-0.02227	0.027530	0.020995	0.000262	0.013370
5	0.04140	-0.014325	0.010564	-0.010819	-0.009560
6	0.00202	-0.007140	-0.000329	-0.019542	0.002364
7	0.02805	0.017805	-0.021331	-0.000501	-0.005875
8	0.01518	0.030326	0.017166	-0.025486	0.021965
9	-0.04522	-0.020609	0.004599	0.020044	-0.006871
10	-0.02271	0.016801	-0.001736	0.012315	-0.020721
11	-0.02739	0.000825	-0.005013	-0.007642	-0.006176
12	0.04900	0.009463	-0.008487	-0.003465	-0.021875
13	0.01653	-0.017154	-0.010676	0.000937	0.007143
14	0.01867	-0.068737	-0.010240	0.007394	0.001068
15	-0.04581	-0.010028	-0.000147	0.015201	0.009310
16	-0.01578	-0.017083	-0.013647	0.002568	0.007750
17	0.00673	-0.052812	-0.011473	-0.006270	0.002249
18	-0.01219	-0.015199	0.005296	0.025931	0.034897
19	-0.02481	0.020454	0.007298	0.001163	0.017244
20	0.04070	0.018335	-0.012863	-0.005215	0.001055
21	0.00019	0.006876	0.003743	-0.008637	-0.004092
22	0.02134	0.011155	-0.000401	-0.003558	-0.008533
23	0.02627	-0.021884	-0.011103	0.006442	-0.002506
24	-0.02108	0.004551	0.002287	-0.031321	-0.003251
25	-0.01994	-0.003959	0.031951	-0.009262	0.004453
26	0.00122	-0.038963	-0.005276	0.012424	0.001963
27	-0.01202	-0.031373	0.002317	0.013106	0.025917
28	-0.03948	0.029440	0.027603	-0.003526	-0.031806
29	0.02635	0.010853	0.009680	-0.005997	0.009684
30	-0.04966	-0.022311	-0.009972	0.008684	-0.001400
31	0.02344	0.025985	-0.012470	-0.002641	0.009872
32	0.03481	0.052806	-0.001210	-0.012875	-0.012930
33	0.01013	0.029694	0.006812	-0.005306	-0.000041
34	0.03496	-0.009423	0.008239	0.004738	0.005834
35	-0.00217	0.003041	0.004320	0.005794	-0.009432
36	0.01299	-0.013473	0.006343	0.002769	0.004384
37	-0.04889	-0.026175	0.025043	-0.026865	0.022290

Principal Component Analysis of Stock Returns

Obs	Prin1	Prin2	Prin3	Prin4	Prin5
38	0.03365	0.016412	0.000978	0.008638	0.012524
39	0.01179	-0.016674	0.002837	0.005652	0.005516
40	-0.02560	-0.019172	-0.016010	0.001483	0.000836
41	-0.02917	-0.049570	-0.009504	-0.012245	-0.013479
42	0.04581	0.050307	-0.014893	0.011434	-0.000676
43	0.04588	0.035562	-0.003530	0.020864	0.008579
44	0.02214	0.007377	-0.019826	0.013615	0.003007
45	-0.03370	-0.054998	-0.002171	0.005505	0.004354
46	0.03679	-0.002227	-0.004206	0.001094	0.010446
47	-0.02297	0.018967	-0.011971	-0.009659	-0.002463
48	-0.01775	0.005459	0.003916	0.019661	-0.000463
49	-0.00277	0.020983	-0.000289	-0.018864	-0.019566
50	0.05930	0.018378	0.003425	0.011811	-0.020920
51	-0.01744	-0.006588	-0.009641	-0.008476	0.003869
52	-0.03971	0.017730	-0.006567	0.010734	-0.008758
53	0.00380	-0.041522	0.010917	-0.009183	-0.008637
54	-0.01355	-0.011186	-0.023132	0.010688	-0.014486
55	0.02508	-0.000419	-0.006337	0.000745	0.001011
56	0.09601	0.001572	0.013800	0.012161	-0.009044
57	-0.00113	-0.016164	0.016077	0.000657	-0.008710
58	0.04775	-0.057608	0.006028	0.005633	0.000249
59	0.04710	-0.018825	0.037865	-0.000831	0.001011
60	0.02603	0.004210	-0.016576	-0.013795	0.011714
61	-0.06313	-0.014329	-0.016824	0.013672	-0.007431
62	-0.00298	-0.020676	0.027478	-0.000957	0.000486
63	-0.10085	-0.020836	-0.001925	-0.005964	0.009404
64	0.02021	-0.016323	-0.000602	0.023483	0.009051
65	0.01033	0.020306	-0.017251	-0.011051	-0.003992
66	-0.07262	0.021752	-0.025177	0.007790	-0.012802
67	0.05280	-0.000978	0.030458	-0.010675	-0.013944
68	-0.02574	0.048666	-0.018761	0.003967	0.005892
69	0.00429	-0.004896	0.004683	-0.003122	0.007853
70	-0.09066	0.001452	-0.016359	0.012500	-0.004270
71	0.03593	0.059705	-0.002627	0.000063	0.009081
72	0.04087	-0.037057	0.014477	-0.002239	-0.002855
73	-0.00445	0.002354	0.003785	0.015035	0.000043
74	0.01195	-0.009055	0.008142	0.005144	-0.004199

Principal Component Analysis of Stock Returns

Obs	Prin1	Prin2	Prin3	Prin4	Prin5
75	0.06539	-0.017723	-0.005339	-0.021216	0.012030
76	-0.04375	-0.004702	-0.030766	-0.011786	-0.003448
77	0.01604	-0.019331	-0.021051	-0.010943	0.020700
78	0.00378	-0.004276	0.010817	0.013517	-0.009034
79	-0.02895	0.041739	0.015477	-0.002846	0.021269
80	-0.04163	-0.028992	0.057189	-0.000965	-0.000447
81	-0.01070	-0.015934	-0.020246	-0.007178	0.002153
82	0.01554	-0.005648	-0.035389	-0.020429	-0.000797
83	0.06343	-0.050535	-0.011925	0.008980	-0.002971
84	-0.05004	0.036855	0.002078	0.009450	-0.004597
85	-0.04162	-0.032289	0.007563	-0.002868	-0.016298
86	0.06563	-0.003966	-0.012072	-0.006357	0.001202
87	0.01760	0.018577	0.043910	0.013533	-0.008847
88	0.01430	0.009763	-0.006125	0.003551	-0.008738
89	-0.02051	-0.022240	0.000596	0.010666	-0.016266
90	-0.00039	-0.002618	-0.014381	-0.003201	-0.008128
91	-0.07242	0.035675	-0.009077	-0.007042	0.000581
92	-0.02871	0.011557	0.005125	-0.001208	0.008429
93	-0.07421	0.043132	0.012519	-0.020897	0.011491
94	0.06559	0.033352	-0.024300	-0.011595	0.008783
95	0.02546	0.002889	0.017437	-0.015592	-0.006448
96	-0.01024	0.074660	0.001775	0.030660	-0.000305
97	0.04469	-0.017043	-0.013349	0.003355	0.001280
98	0.03669	0.025089	0.015332	0.013914	0.008855
99	-0.02583	-0.008164	-0.004362	-0.023625	-0.009049
100	-0.01183	0.006836	-0.005123	-0.004264	-0.004195
101	-0.01163	0.029480	0.007872	0.005067	0.007684
102	-0.01602	0.013121	-0.005272	-0.008580	0.006188
103	-0.02991	-0.015442	-0.007388	-0.008789	-0.008106

Principal Component Analysis of Stock Returns

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Observations	103
Variables	5

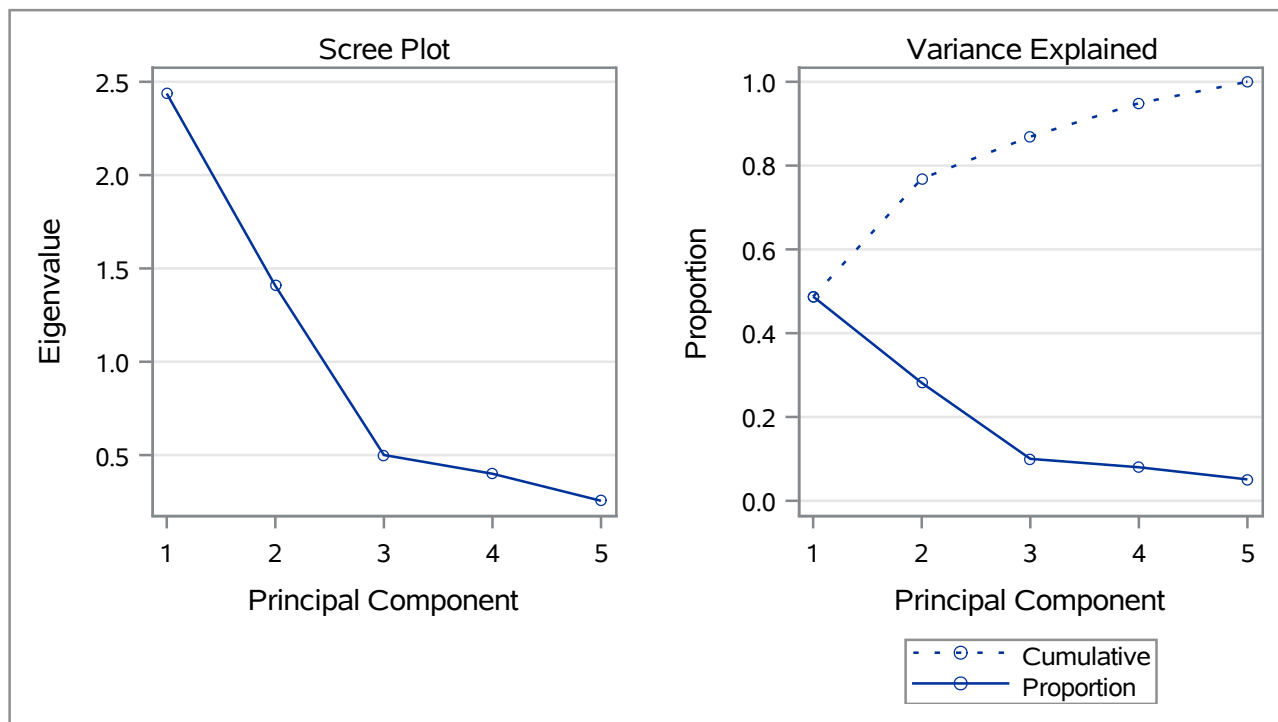| Simple Statistics					
	JPM	Citi	WF	RDS	EM
Mean	0.0010627806	0.0006554204	0.0016260816	0.0040491252	0.0040386417
StD	0.0208151256	0.0209455772	0.0149657006	0.0268792933	0.0276708181

Correlation Matrix					
	JPM	Citi	WF	RDS	EM
JPM	1.0000	0.6323	0.5105	0.1146	0.1545
Citi	0.6323	1.0000	0.5741	0.3223	0.2127
WF	0.5105	0.5741	1.0000	0.1825	0.1462
RDS	0.1146	0.3223	0.1825	1.0000	0.6834
EM	0.1545	0.2127	0.1462	0.6834	1.0000

Eigenvalues of the Correlation Matrix				
	Eigenvalue	Difference	Proportion	Cumulative
1	2.43727312	1.03026046	0.4875	0.4875
2	1.40701266	0.90649991	0.2814	0.7689
3	0.50051275	0.10048116	0.1001	0.8690
4	0.40003159	0.14486170	0.0800	0.9490
5	0.25516988		0.0510	1.0000

Eigenvectors					
	Prin1	Prin2	Prin3	Prin4	Prin5
JPM	0.469083	-.368007	-.604315	0.363023	0.384122
Citi	0.532405	-.236462	-.136106	-.629208	-.496188
WF	0.465163	-.315179	0.771828	0.288966	0.071169
RDS	0.387346	0.585037	0.093362	-.381252	0.594664
EM	0.360682	0.605846	-.108826	0.493415	-.497552

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