The SAS System

The PRINCOMP Procedure
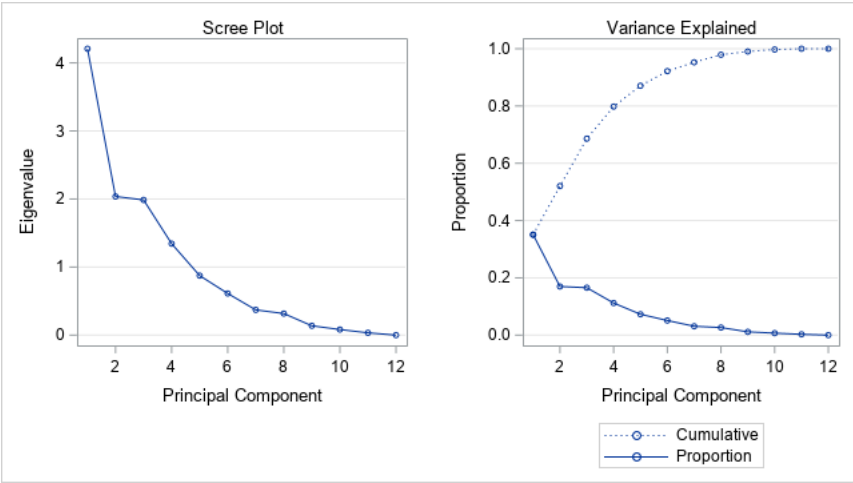
Observations	75
Variables	12

Simple Statistics										
	Gasoline_Gallons	Diesel_Gallons	Kerosene_Gallons	Alternative_Fuels_Gallons	Highway_Fuel_Use	Total_Gallons_ST_Road_Tax	Registration_Fee	Driver_license_Fee	Emission_inspection	Overweight
Mean	385445630.7	84100795.91	272098.7867	705526.1333	7078992.960	477603044.5	437083.5339	9932972.281	2228357.177	562486.3956	124
StD	40255686.7	9475775.68	307162.6503	545363.9861	4705293.264	48321611.4	104557.3189	1812550.508	1335299.524	85387.4169	525

Correlation Matrix									
	Gasoline_Gallons	Diesel_Gallons	Kerosene_Gallons	Alternative_Fuels_Gallons	Highway_Fuel_Use	Total_Gallons_ST_Road_Tax	Registration_Fee	Driver_license_Fee	Emission_inspect
Gasoline_Gallons	1.0000	0.8306	-.3653	0.1967	-.0491	0.9911	0.2612	0.3136	-.1
Diesel_Gallons	0.8306	1.0000	-.3386	0.3905	-.1391	0.8767	0.3702	0.1760	-.20
Kerosene_Gallons	-.3653	-.3386	1.0000	0.0079	-.0428	-.3684	0.0825	0.0158	-.08
Alternative_Fuels_Gallons	0.1967	0.3905	0.0079	1.0000	-.4041	0.2124	0.4597	0.0610	-.17
Highway_Fuel_Use	-.0491	-.1391	-.0428	-.4041	1.0000	0.0244	0.0114	0.0451	-.03
Total_Gallons_ST_Road_Tax	0.9911	0.8767	-.3684	0.2124	0.0244	1.0000	0.2970	0.3010	-.14
Registration_Fee	0.2612	0.3702	0.0825	0.4597	0.0114	0.2970	1.0000	0.4363	-.15
Driver_license_Fee	0.3136	0.1760	0.0158	0.0610	0.0451	0.3010	0.4363	1.0000	0.20
Emission_inspection	-.1149	-.2050	-.0838	-.1753	-.0349	-.1419	-.1510	0.2020	1.00
Overweight	0.3066	0.3532	-.1993	0.4004	-.0075	0.3272	0.6865	0.3636	-.08
Title_fee	-.0733	-.1354	-.0991	-.1115	0.0068	-.0888	-.1529	0.1089	0.94
Trust_Fund_Title_fee	0.2443	0.3508	-.0496	0.3964	0.0746	0.2837	0.8869	0.5531	-.07

	Eigenvalue	Difference	Proportion	Cumulative
Eigenvalues of the Correlation Matrix				
1	4.20800979	2.17109470	0.3507	0.3507
2	2.03691508	0.05033873	0.1697	0.5204
3	1.98657635	0.64288220	0.1655	0.6860
4	1.34369415	0.46982979	0.1120	0.7979
5	0.87386436	0.26220226	0.0728	0.8708
6	0.61166210	0.24100960	0.0510	0.9217
7	0.37065250	0.05416242	0.0309	0.9526
8	0.31649008	0.17955751	0.0264	0.9790
9	0.13693257	0.05519516	0.0114	0.9904
10	0.08173741	0.04827179	0.0068	0.9972
11	0.03346562	0.03346562	0.0028	1.0000
12	0.00000000		0.0000	1.0000

	Prin1	Prin2	Prin3	Prin4	Prin5	Prin6	Prin7	Prin8	Prin9	Prin10	Prin11	Prin12
Eigenvectors												
Gasoline_Gallons	0.374699	0.202993	-.348558	0.039395	0.227558	0.028594	-.100843	0.103424	-.439834	0.171793	-.023285	0.631170
Diesel_Gallons	0.395431	0.091179	-.302233	-.106648	0.081032	0.207097	-.034864	-.214028	0.755453	-.193781	0.076087	0.148571
Kerosene_Gallons	-.138151	-.276314	0.279994	-.064288	0.729277	0.404428	-.261332	0.179051	0.092026	0.133211	-.006206	0.004816
Alternative_Fuels_Gallons	0.256062	-.166541	0.119244	-.544400	-.130549	0.299110	0.606612	0.326211	-.091841	0.031585	0.075489	0.008551
Highway_Fuel_Use	-.037037	0.044873	0.029008	0.757514	-.145811	0.491048	0.314867	0.209103	0.055685	-.033883	0.083667	0.073774
Total_Gallons_ST_Road_Tax	0.388102	0.187723	-.343693	0.079115	0.194428	0.118195	-.055002	0.069371	-.213302	0.103021	0.004482	-.757636
Registration_Fee	0.362847	-.136934	0.375861	0.044618	-.021066	0.180235	-.139721	-.399647	-.349091	-.598254	0.119949	0.000000
Driver_license_Fee	0.238503	0.195701	0.306912	0.209357	0.434416	-.568869	0.374153	0.220818	0.144595	-.206748	-.045372	0.000000
Emission_inspection	-.117948	0.609437	0.260118	-.136967	0.009513	0.086495	-.073599	-.034624	0.002176	0.147624	0.701618	0.000000
Overweight	0.348417	-.037677	0.267932	0.029772	-.367101	-.071814	-.528169	0.603501	0.144610	0.014109	-.017431	0.000000
Title_fee	-.108663	0.612168	0.209605	-.159103	-.028781	0.281507	-.022264	-.004698	0.002566	-.127635	-.668809	0.000000
Trust_Fund_Title_fee	0.361845	-.067151	0.395891	0.125308	-.094112	-.013591	0.076083	-.427286	0.081479	0.680806	-.156805	0.000000

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The PRINCOMP Procedure

Observations	125
Variables	8

Simple Statistics

	Quarterly_GDP_of_NC	Labor_Force	Employment	Unemployment	UnemploymentRate	CPI_U	Normalized_CPI_U	Monthly_Retail_and_Food_Services
Mean	494467.7880	4793224.728	4461607.768	331616.9600	0.0699200000	229.8916800	1.101040000	84500.42400
StD	62239.6864	165521.472	277529.264	121119.6866	0.0271048145	11.6565688	0.055848643	16201.44088

Correlation Matrix

	Quarterly_GDP_of_NC	Labor_Force	Employment	Unemployment	UnemploymentRate	CPI_U	Normalized_CPI_U	Monthly_Retail_and_Food_Services
Quarterly_GDP_of_NC	1.0000	0.9682	0.9568	-.8692	-.8709	0.9608	0.9578	0.8592
Labor_Force	0.9682	1.0000	0.9769	-.8718	-.8778	0.9120	0.9079	0.8360
Employment	0.9568	0.9769	1.0000	-.9564	-.9574	0.9049	0.9016	0.8606
Unemployment	-.8692	-.8718	-.9564	1.0000	0.9941	-.8270	-.8252	-.8295
UnemploymentRate	-.8709	-.8778	-.9574	0.9941	1.0000	-.8297	-.8284	-.8287
CPI_U	0.9608	0.9120	0.9049	-.8270	-.8297	1.0000	0.9987	0.8857
Normalized_CPI_U	0.9578	0.9079	0.9016	-.8252	-.8284	0.9987	1.0000	0.8839
Monthly_Retail_and_Food_Services	0.8592	0.8360	0.8606	-.8295	-.8287	0.8857	0.8839	1.0000

Eigenvalues of the Correlation Matrix

	Eigenvalue	Difference	Proportion	Cumulative
1	7.28764485	6.90393237	0.9110	0.9110
2	0.38371248	0.18045938	0.0480	0.9589
3	0.20325311	0.10447981	0.0254	0.9843
4	0.09877329	0.07942230	0.0123	0.9967
5	0.01935100	0.01329125	0.0024	0.9991
6	0.00605974	0.00485422	0.0008	0.9998
7	0.00120552	0.00120552	0.0002	1.0000
8	0.00000000		0.0000	1.0000

Eigenvectors

	Prin1	Prin2	Prin3	Prin4	Prin5	Prin6	Prin7	Prin8
Quarterly_GDP_of_NC	0.361368	0.196794	0.303942	0.082388	-.849362	-.098608	0.019410	0.000000
Labor_Force	0.356929	0.043878	0.429566	0.556013	0.377484	-.066622	0.003162	-.479642
Employment	0.364720	-.203795	0.208750	0.221788	0.177442	0.232909	0.013715	0.804214
Unemployment	-.347929	0.526931	0.108720	0.251647	0.109282	-.624724	-.027105	0.350976
UnemploymentRate	-.348614	0.519810	0.088618	0.240639	-.057019	0.733204	0.040810	0.000000
CPI_U	0.355228	0.409608	0.009908	-.385208	0.188974	0.058505	-.720012	0.000000
Normalized_CPI_U	0.354475	0.412950	0.002343	-.418606	0.223494	-.008243	0.691785	0.000000
Monthly_Retail_and_Food_Services	0.338477	0.177901	-.812243	0.435916	-.061234	-.015211	0.006497	0.000000
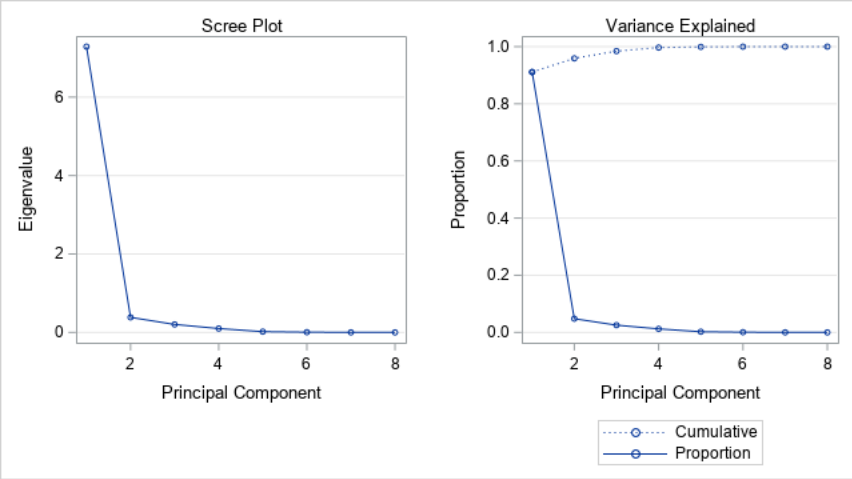
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The PRINCOMP Procedure

Observations	125
Variables	12

Simple Statistics										
	Ave_Temperature_F	Ave_Precipitation	Ave_Snowfall	Ave_snow_depth	Ave_heating_degree_day	Ave_Cooling_Degree_Day	Hurrican_times_occurred	Daily_Dew_Point	Sea_Level_Pressure	Daily_Visibility
Mean	61.76640000	0.1327200000	0.0180000000	0	8.417600000	4.796800000	0.1760000000	49.51440000	1017.830400	46.8491200
StD	14.34600621	0.0641743593	0.0497574763	0	9.042409613	5.651490469	0.4590312380	15.04435755	2.577515	420.9157135

Correlation Matrix									
	Ave_Temperature_F	Ave_Precipitation	Ave_Snowfall	Ave_snow_depth	Ave_heating_degree_day	Ave_Cooling_Degree_Day	Hurrican_times_occurred	Daily_Dew_Point	Sea_Level_Pressure
Ave_Temperature_F	1.0000	0.2599	-.4433	0.0000	-.9617	0.9052	0.3017	0.9853	-.5551
Ave_Precipitation	0.2599	1.0000	-.0117	0.0000	-.2628	0.2254	0.1397	0.3058	-.1284
Ave_Snowfall	-.4433	-.0117	1.0000	0.0000	0.5013	-.2867	-.1222	-.4352	0.1614
Ave_snow_depth	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Ave_heating_degree_day	-.9617	-.2628	0.5013	0.0000	1.0000	-.7561	-.2965	-.9545	0.5131
Ave_Cooling_Degree_Day	0.9052	0.2254	-.2867	0.0000	-.7561	1.0000	0.2725	0.8837	-.5334
Hurrican_times_occurred	0.3017	0.1397	-.1222	0.0000	-.2965	0.2725	1.0000	0.3120	-.1279
Daily_Dew_Point	0.9853	0.3058	-.4352	0.0000	-.9545	0.8837	0.3120	1.0000	-.4984
Sea_Level_Pressure	-.5551	-.1284	0.1614	0.0000	0.5131	-.5334	-.1279	-.4984	1.0000
Daily_Visibility	-.1232	-.0319	-.0324	0.0000	0.1419	-.0764	-.0343	-.1159	0.0756
Daily_Wind_Speed	-.0217	0.1824	-.0551	0.0000	0.0017	-.0433	-.0225	-.0251	0.0864
Daily_Humidity	-.0135	0.1691	-.0565	0.0000	-.0022	-.0289	-.0141	-.0129	0.0908

Eigenvalues of the Correlation Matrix				
	Eigenvalue	Difference	Proportion	Cumulative
1	4.51147406	2.44423193	0.4101	0.4101
2	2.06724213	1.02400126	0.1879	0.5981
3	1.04324087	0.07389798	0.0948	0.6929
4	0.96934289	0.08321404	0.0881	0.7810
5	0.88612885	0.14269305	0.0806	0.8616
6	0.74343581	0.19402569	0.0676	0.9292
7	0.54941011	0.34124169	0.0499	0.9791
8	0.20816842	0.19196985	0.0189	0.9980
9	0.01619857	0.01147446	0.0015	0.9995
10	0.00472411	0.00408991	0.0004	0.9999
11	0.00063420	0.00063420	0.0001	1.0000
12	0.00000000		0.0000	1.0000

Eigenvectors												
	Prin1	Prin2	Prin3	Prin4	Prin5	Prin6	Prin7	Prin8	Prin9	Prin10	Prin11	Prin12
Ave_Temperature_F	0.463772	-.006049	-.022943	-.047576	-.041126	0.012415	0.196911	-.092820	-.326097	-.035749	0.790720	0.00000
Ave_Precipitation	0.152958	0.211697	0.371878	0.566009	-.274378	-.576963	-.239888	0.074489	-.037169	-.021666	0.003715	0.00000
Ave_Snowfall	-.232709	-.054782	0.559824	0.260027	-.296978	0.457813	0.446686	-.253624	-.013508	-.001608	-.001329	0.00000
Ave_snow_depth	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	1.00000
Ave_heating_degree_day	-.447001	-.012050	0.051282	0.077593	-.021800	0.089158	-.093192	0.605177	0.360628	0.117505	0.513990	0.00000
Ave_Cooling_Degree_Day	0.419727	-.027843	0.028341	0.014850	-.126341	0.164596	0.324091	0.726604	-.189895	-.038583	-.329302	0.00000
Hurrican_times_occurred	0.176474	-.004961	0.121484	0.496741	0.765804	0.311893	-.152813	0.013934	-.004539	0.003932	0.002800	0.00000
Daily_Dew_Point	0.458813	0.000159	-.011815	-.002805	-.024665	-.055658	0.242013	-.140136	0.818547	0.193416	-.000423	0.00000
Sea_Level_Pressure	-.292029	0.090071	-.106977	0.084311	0.372106	-.494845	0.707192	0.018853	-.065040	-.003560	0.000180	0.00000
Daily_Visibility	-.065758	-.027046	-.717408	0.583337	-.304624	0.181261	0.086844	-.082041	-.007283	-.003324	-.000457	0.00000
Daily_Wind_Speed	-.009543	0.687084	-.038954	-.065720	-.006029	0.142831	0.003472	-.018062	-.153320	0.690431	-.031787	0.00000
Daily_Humidity	-.006036	0.685764	-.042561	-.071037	0.005800	0.154349	0.028894	0.008579	0.167794	-.684697	0.033211	0.00000