Commented Code for: Did natural resource wealth motivate fighting in the Bosnian War?

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I begin this analysis by computing bivariate correlations between all variables and looking for instances where these correlations are significant. The goal is to reduce the number of possible dependent variables for each given independent variable in order to perform some sort of meaningful analysis. The example shown below represents those variables that are significant for the independent variable of lnDead.

Here I list the significant correlations between given dependent variables and all independent variables:

Conflict Points: Rail Lines, RS Distance, GDP per capita

Peacekeeping Events: Dead or Missing[*], lnDead[*], Dams

Victims/Population: Forest, Poverty Risk (Poor)

Dead or Missing: lnPopulation, Towns, Rivers, Total Area, Peacekeeping Events[*], lnDead[*], Population[x], Dams, Forest Gain

lnDead: lnPopulation, Towns, Rivera, Area[+], Total Area, Major Industries, Forest, Dead or Missing[*], Peacekeeping Events[*], Population[x], Dams, Forest Gain

Mined: GDP per capita, Other, Density

Where:

[*]another dependent variable, so these variables were removed from the analysis as they were meant to measure the same concept as the given independent variable.

[x]since the Population and lnPopulation variables were both significant, lnPopulation was chosen because the natural log is more resistant to heterosketasticity.

[+]since the Area and Total Area variables were both significant, Total Area was chosen because this variable had entries for more cantons.

Correlations

		lnDead	Towns	Rivers	Total_Area	Forest_Gain	Dams	Area	Population	lnPopulation	Major_Industries	Forest	Peacekeeping_Events	Dead_Missing
lnDead	Pearson Correlation	1	.706**	.550*	.627**	.479*	.498*	.686*	.683**	.717**	.495*	.601**	.527*	.891**
	Sig. (2-tailed)		.001	.018	.005	.044	.036	.020	.002	.001	.037	.008	.025	.000
	N	18	18	18	18	18	18	11	18	18	18	18	18	18
Towns	Pearson Correlation	.706**	1	.653**	.845**	.648**	.342	.851**	.670**	.487*	.527*	.337	.171	.703**
	Sig. (2-tailed)	.001		.003	.000	.004	.165	.001	.002	.040	.025	.172	.499	.001
	N	18	18	18	18	18	18	11	18	18	18	18	18	18
Rivers	Pearson Correlation	.550*	.653**	1	.617**	.755**	.310	.413	.634**	.327	.558*	.354	.039	.596**
	Sig. (2-tailed)	.018	.003		.006	.000	.210	.207	.005	.185	.016	.150	.877	.009
	N	18	18	18	18	18	18	11	18	18	18	18	18	18
Total_Area	Pearson Correlation	.627**	.845**	.617**	1	.762**	.487*	.970**	.550*	.392	.320	.147	-.004	.685**
	Sig. (2-tailed)	.005	.000	.006		.000	.041	.000	.018	.108	.195	.559	.988	.002
	N	18	18	18	18	18	18	11	18	18	18	18	18	18
Forest_Gain	Pearson Correlation	.479*	.648**	.755**	.762**	1	.342	.561	.414	.301	.256	.445	-.101	.488*
	Sig. (2-tailed)	.044	.004	.000	.000		.164	.073	.088	.225	.305	.064	.691	.040
	N	18	18	18	18	18	18	11	18	18	18	18	18	18
Dams	Pearson Correlation	.498*	.342	.310	.487*	.342	1	.[c]	.222	.161	.039	.229	.540*	.739**
	Sig. (2-tailed)	.036	.165	.210	.041	.164		.000	.376	.523	.877	.361	.021	.000
	N	18	18	18	18	18	18	11	18	18	18	18	18	18
Area	Pearson Correlation	.686*	.851**	.413	.970**	.561	.[c]	1	.369	.513	.331	.369	.063	.572
	Sig. (2-tailed)	.020	.001	.207	.000	.073	.000		.265	.106	.320	.263	.854	.066

	N	11	11	11	11	11	11	11	11	11	11	11	11	11
Population	Pearson Correlation	.683**	.670**	.634**	.550*	.414	.222	.369	1	.631**	.754**	.327	.195	.659**
	Sig. (2-tailed)	.002	.002	.005	.018	.088	.376	.265		.005	.000	.185	.439	.003
	N	18	18	18	18	18	18	11	18	18	18	18	18	18
lnPopulation	Pearson Correlation	.717**	.487*	.327	.392	.301	.161	.513	.631**	1	.429	.361	.207	.473*
	Sig. (2-tailed)	.001	.040	.185	.108	.225	.523	.106	.005		.075	.141	.410	.047
	N	18	18	18	18	18	18	11	18	18	18	18	18	18
Major_Industries	Pearson Correlation	.495*	.527*	.558*	.320	.256	.039	.331	.754**	.429	1	.389	.134	.418
	Sig. (2-tailed)	.037	.025	.016	.195	.305	.877	.320	.000	.075		.111	.597	.084
	N	18	18	18	18	18	18	11	18	18	18	18	18	18
Forest	Pearson Correlation	.601**	.337	.354	.147	.445	.229	.369	.327	.361	.389	1	.389	.443
	Sig. (2-tailed)	.008	.172	.150	.559	.064	.361	.263	.185	.141	.111		.111	.066
	N	18	18	18	18	18	18	11	18	18	18	18	18	18
Peacekeeping_Events	Pearson Correlation	.527*	.171	.039	-.004	-.101	.540*	.063	.195	.207	.134	.389	1	.638**
	Sig. (2-tailed)	.025	.499	.877	.988	.691	.021	.854	.439	.410	.597	.111		.004
	N	18	18	18	18	18	18	11	18	18	18	18	18	18
Dead_Missing	Pearson Correlation	.891**	.703**	.596**	.685**	.488*	.739**	.572	.659**	.473*	.418	.443	.638**	1
	Sig. (2-tailed)	.000	.001	.009	.002	.040	.000	.066	.003	.047	.084	.066	.004	
	N	18	18	18	18	18	18	11	18	18	18	18	18	18

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

c. Cannot be computed because at least one of the variables is constant.

For each independent variable, I proceeded with a stepwise removal regression with the lower bound at 0.05 and the upper bound at 0.10. Here is an example with the dependent variable of lnDead.

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method

1	lnPopulation	.	Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100).
2	Towns	.	Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100).
3	Forest	.	Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100).

a. Dependent Variable: lnDead

Model Summary[d]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.717[a]	.514	.484	.606769679112698	
2	.825[b]	.681	.639	.507590594018043	
3	.875[c]	.766	.716	.449613165817219	2.347

a. Predictors: (Constant), lnPopulation

b. Predictors: (Constant), lnPopulation, Towns

c. Predictors: (Constant), lnPopulation, Towns, Forest

d. Dependent Variable: lnDead

ANOVA[a]

Model	Sum of Squares	df	Mean Square	F	Sig.

1	Regression	6.229	1	6.229	16.918	.001[b]
	Residual	5.891	16	.368		
	Total	12.119	17			
2	Regression	8.255	2	4.127	16.019	.000[c]
	Residual	3.865	15	.258		
	Total	12.119	17			
3	Regression	9.289	3	3.096	15.317	.000[d]
	Residual	2.830	14	.202		
	Total	12.119	17			

a. Dependent Variable: lnDead

b. Predictors: (Constant), lnPopulation

c. Predictors: (Constant), lnPopulation, Towns

d. Predictors: (Constant), lnPopulation, Towns, Forest

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	5.407	.827		6.538	.000		
	lnPopulation	.290	.071	.717	4.113	.001	1.000	1.000
2	(Constant)	5.946	.718		8.281	.000		
	lnPopulation	.198	.068	.489	2.929	.010	.763	1.311
	Towns	.088	.031	.468	2.804	.013	.763	1.311
3	(Constant)	6.094	.639		9.531	.000		
	lnPopulation	.165	.062	.406	2.669	.018	.719	1.391
	Towns	.075	.028	.401	2.657	.019	.733	1.364
	Forest	.801	.354	.320	2.262	.040	.836	1.196

a. Dependent Variable: lnDead

Excluded Variables[a]

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics		
						Tolerance	VIF	Minimum Tolerance
1	Towns	.468[b]	2.804	.013	.586	.763	1.311	.763
	Forest	.394[b]	2.399	.030	.527	.870	1.150	.870
	Total_Area	.409[b]	2.487	.025	.540	.846	1.181	.846

	Major_Industries	.229[b]	1.204	.247	.297	.816	1.226	.816
	Dams	.392[b]	2.585	.021	.555	.974	1.027	.974
	Forest_Gain	.289[b]	1.668	.116	.396	.910	1.099	.910
2	Forest	.320[c]	2.262	.040	.517	.836	1.196	.719
	Total_Area	.141[c]	.505	.622	.134	.285	3.503	.257
	Major_Industries	.056[c]	.305	.765	.081	.683	1.464	.639
	Dams	.293[c]	2.088	.056	.487	.883	1.133	.692
	Forest_Gain	.049[c]	.248	.808	.066	.580	1.723	.487
3	Total_Area	.312[d]	1.268	.227	.332	.265	3.779	.229
	Major_Industries	-.024[d]	-.143	.889	-.040	.650	1.539	.633
	Dams	.256[d]	2.042	.062	.493	.867	1.153	.676
	Forest_Gain	-.088[d]	-.474	.643	-.130	.517	1.936	.486

a. Dependent Variable: lnDead

b. Predictors in the Model: (Constant), lnPopulation

c. Predictors in the Model: (Constant), lnPopulation, Towns

d. Predictors in the Model: (Constant), lnPopulation, Towns, Forest

Optimal lnDead Model:

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.875[a]	.766	.716	.449613165817219	2.347

a. Predictors: (Constant), Forest, Towns, lnPopulation

b. Dependent Variable: lnDead

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	9.289	3	3.096	15.317	.000[b]
	Residual	2.830	14	.202		
	Total	12.119	17			

a. Dependent Variable: lnDead

b. Predictors: (Constant), Forest, Towns, lnPopulation

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	6.094	.639		9.531	.000		
	lnPopulation	.165	.062	.406	2.669	.018	.719	1.391
	Towns	.075	.028	.401	2.657	.019	.733	1.364
	Forest	.801	.354	.320	2.262	.040	.836	1.196

a. Dependent Variable: lnDead

This regression model has an adjusted r-square of 0.716, which means that seventy-one percent of the variation in the percentage of individuals who were dead or missing within a particular canton can be explained by the independent variables. For every additional town in a given canton, we can expect to see a exp(.075)=1.078, so a 7.8% increase in the number of dead or missing in that canton. Similarly, for a one percent increase in the forest cover in a canton, we can expect to see a exp(0.801)=2.228, so a 128% increase in the number of dead or missing in that canton. Finally, for a one percent increase in the population of a canton, we can expect to see a 1.01^(0.165)=1.0016, so a 0.16% increase in the number of dead or missing in that canton. The F test and individual t-tests are clearly significant. Additionally, the Variance Inflation Factor is below ten for each independent variable, so there is no significant amount of covariation.

We wish to determine if there are any autocorrelation problems or general misspecification issues with this model. Our Durbin-Watson of 2.347 looks promising for failing to reject the null hypothesis that there is no autocorrelation. We have three independent variables, so k'=3 and eighteen samples. This gives us a lower bound of 2.933 and an upper bound of 3.696 at an alpha of 0.05. Clearly, 2.347 lies within this range, so we fail to reject the null hypothesis and conclude that there is no autocorrelation in our model.

For the remaining models, I will record this information thusly: k'=3, n=18, dL=0.933, dU=1.696, alpha=0.05, so 2.347<3.696 and we fail to reject Ho. No evidence of autocorrelation.

```
. reg lnDead lnPopulation Towns Forest, vce(robust)

Linear regression                               Number of obs =      18
                                                F(  3,    14) =   46.58
                                                Prob > F      =  0.0000
                                                R-squared     =  0.7665
                                                Root MSE      =  .44961

------------------------------------------------------------------------------
             |               Robust
      lnDead |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
lnPopulation |   .1646032   .0445285     3.70   0.002     .0690991    .2601073
       Towns |   .0749968   .0276373     2.71   0.017     .0157207     .134273
      Forest |    .800576   .3548322     2.26   0.041     .0395367    1.561615
       _cons |   6.093879   .3032823    20.09   0.000     5.443403    6.744355
------------------------------------------------------------------------------
```

In Stata, I ran the robust standard errors to see if the confidence intervals overlap with zero. All the t-tests hold up to the robust tests, so we conclude that all independent variables remain significant.

```
. estat imtest, white
Alpha=0.05, df=9, chi=16.9190, 12.33<16.9190 so fail to reject Ho.
White's test for Ho: homoskedasticity
         against Ha: unrestricted heteroskedasticity

         chi2(9)      =     12.33
```

```
         Prob > chi2  =    0.1951

Cameron & Trivedi's decomposition of IM-test

---------------------------------------------------
              Source |       chi2     df      p
---------------------+-----------------------------
  Heteroskedasticity |      12.33      9    0.1951
            Skewness |       5.06      3    0.1671
            Kurtosis |       0.61      1    0.4361
---------------------+-----------------------------
               Total |      18.01     13    0.1573
---------------------------------------------------
```

We perform a White's test to determine if there is heteroskedasticity in the model. At a significance level of 0.05 and the given 9 degrees of freedom we calculate the chi squared critical value as 16.9190. Comparing this to the calculated value of 12.33, we fail to reject the null hypothesis that there is no heteroskedasticity in this model.

In future analysis, we will denote this thusly: Alpha=0.05, df=9, chi=16.9190, 12.33<16.9190 so fail to reject Ho.

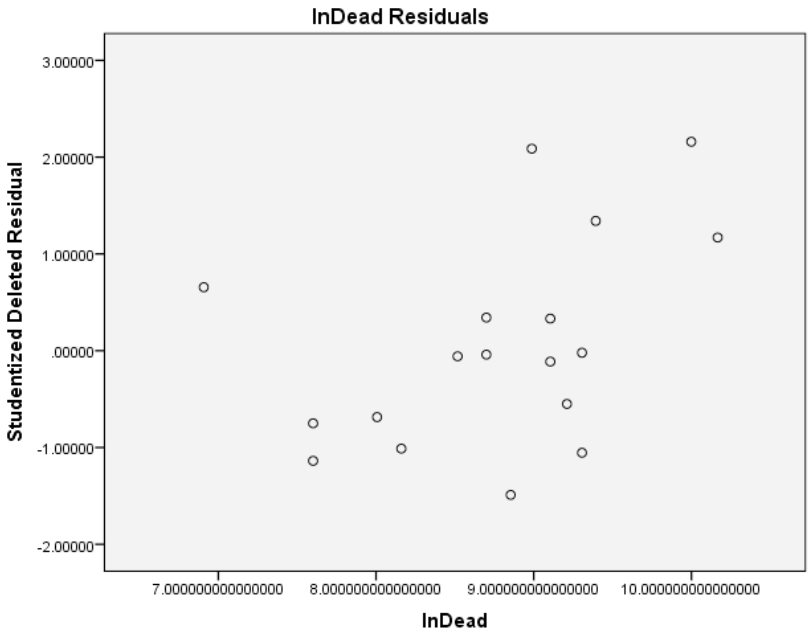
```
. ovtest, rhs

Ramsey RESET test using powers of the independent variables
       Ho:  model has no omitted variables
                   F(9, 5) =      0.61
                  Prob > F =      0.7549
```

We perform both versions of the Ramsey RESET test to determine if the model is missing any variables. In this first case, we have a significance level of 0.05 with nine degrees of freedom in the numerator and five in the denominator. This makes the F critical value 4.77. Comparing with 0.61, we clearly fail to reject the null hypothesis that the model has no omitted variables.

In future analysis, we will denote this thusly: Alpha=0.05, numerator=9, denominator=5, F=4.77, 0.61<4.77 so fail to reject Ho.

```
. ovtest

Ramsey RESET test using powers of the fitted values of lnDead
       Ho:  model has no omitted variables
                  F(3, 11) =      0.62
                  Prob > F =      0.6151
```

Alpha=0.05, numerator=3, denominator=11, F=3.59, 0.62<3.59 so fail to reject Ho.



Above is a plot of the residuals resulting from this regression. There are a few possible outliers in the upper right corner. Other than that, the residuals are fairly evenly distributed around the x-axis.

Including Dams:

The above analysis omits the independent variable "Dams" because it has a t-value of slightly above 0.05. Let us relax this condition and allow that variable to see the effect on the analysis.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.907[a]	.823	.769	.405973305787597	3.007

a. Predictors: (Constant), Dams, lnPopulation, Forest, Towns

b. Dependent Variable: lnDead

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	9.977	4	2.494	15.133	.000[b]
	Residual	2.143	13	.165		
	Total	12.119	17			

a. Dependent Variable: lnDead

b. Predictors: (Constant), Dams, lnPopulation, Forest, Towns

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	6.064	.577		10.500	.000		
	lnPopulation	.169	.056	.417	3.032	.010	.718	1.393
	Towns	.060	.027	.320	2.254	.042	.676	1.479
	Forest	.712	.322	.284	2.209	.046	.821	1.218
	Dams	.315	.154	.256	2.042	.062	.867	1.153

a. Dependent Variable: lnDead

The r-squared value increases to 0.769 from 0.716, so the inclusion of the Dams variable increases the explanatory power of the regression by five percent, which is not particularly impactful. For towns, we find that exp(0.060)=1.062, so an additional town in a particular canton will increase the percentage of dead or missing by 6.1%. Similarly, an additional percentage of forest increases the percentage of dead or missing by exp(0.712)=2.038 or 104% and an additional dam in the canton increases the percentage of dead or missing by exp(0.315)=1.37 or 37%. Finally, a one percent increase in population in a canton increases the percentage of dead or missing by 1.01^(0.169)=1.00168 or 0.17%. Clearly, the F test and t-tests are significant and the VIF measures are sufficiently low.

The Durbin-Watson is clearly good: Alpha=0.05, k'=4, n=18, dl=0.820, du=1.872, 3.007<3.872 so fail to reject the Ho and the model exhibits no signs of autocorrelation.

```
. reg lnDead lnPopulation Towns Forest Dams, vce(robust)

Linear regression                               Number of obs =      18
                                                F(  4,    13) =   66.83
                                                Prob > F      =  0.0000
                                                R-squared     =  0.8232
                                                Root MSE      =  .40597

------------------------------------------------------------------------------
             |               Robust
      lnDead |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
lnPopulation |   .1690058   .0527737     3.20   0.007     .0549951    .2830166
       Towns |   .0598478    .028267     2.12   0.054    -.0012195     .120915
      Forest |    .712272   .2826675     2.52   0.026     .1016061    1.322938
        Dams |   .3148367   .1392953     2.26   0.042     .0139075     .615766
       _cons |   6.063611   .3596712    16.86   0.000     5.286589    6.840633
------------------------------------------------------------------------------
```

However, when we run the robust standard errors, we find that Towns could barely overlap with zero. The t-test is slightly over 0.05. This is not a huge concern, but a problem nonetheless.

```
. estat imtest, white

White's test for Ho: homoskedasticity
         against Ha: unrestricted heteroskedasticity

         chi2(13)     =     16.57
         Prob > chi2  =    0.2196
```

```
Cameron & Trivedi's decomposition of IM-test

---------------------------------------------------
              Source |       chi2     df      p
---------------------+-----------------------------
  Heteroskedasticity |      16.57     13    0.2196
            Skewness |       5.32      4    0.2558
            Kurtosis |       0.24      1    0.6269
---------------------+-----------------------------
               Total |      22.13     18    0.2262
---------------------------------------------------
```

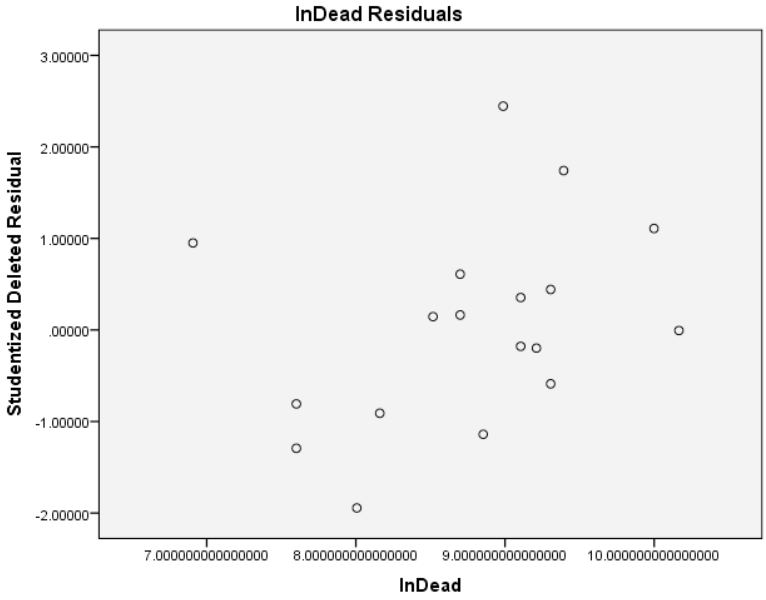
Alpha=0.05, df=13, chi=22.3621, 16.57<22.3621 so fail to reject Ho.

```
. ovtest, rhs
(note:  Dams^2 dropped because of collinearity)
(note:  Dams^3 dropped because of collinearity)

Ramsey RESET test using powers of the independent variables
       Ho:  model has no omitted variables
                  F(10, 3) =      1.06
                  Prob > F =      0.5424
```

Alpha=0.05, numerator=10, denominator=3, F=8.79, 1.06<8.79 so fail to reject Ho.

```
. ovtest

Ramsey RESET test using powers of the fitted values of lnDead
       Ho:  model has no omitted variables
                  F(3, 10) =      0.30
                  Prob > F =      0.8267
```

Alpha=0.05, numerator=3, denominator=10, F=3.71, 0.30<3.71 so fail to reject Ho.



Above is the residual plot for this regression. The pattern is decidedly less random than in the first model: if we were to eliminate the point on the far left there appears to be an increasing trend in the residuals. This did not show up on the White's test, but it indicates the possible presence of heteroskedasticity. Because Dams did not add that much information to the overall regression, I hesitate to use this model due to the possible heteroskedasticity, the slightly too large t-value for Dams in the initial regression, and the slightly too large t-value for Towns in the robust standard errors.

Dead or Missing:

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.881[a]	.776	.746	3325.473	2.772

a. Predictors: (Constant), Dams, Towns

b. Dependent Variable: Dead_Missing

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	573354587.198	2	286677293.599	25.923	.000[b]
	Residual	165881523.913	15	11058768.261		
	Total	739236111.111	17			

a. Dependent Variable: Dead_Missing

b. Predictors: (Constant), Dams, Towns

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	2248.000	1328.797		1.692	.111		
	Towns	745.090	190.260	.510	3.916	.001	.883	1.133
	Dams	5427.714	1251.241	.565	4.338	.001	.883	1.133

a. Dependent Variable: Dead_Missing

It is quite unsatisfying that the stepwise removal procedure for this regression removed lnPopulation, Rivers, Total Area, and Forest Gain, leaving only Towns and Dams. Still, we explain 72% of the variation in the number of individuals dead or missing in a particular canton by taking into account the number of towns and the number of dams. The addition of one town to a canton increases the number of dead or missing by 745 people. Similarly, the addition of a dam to a canton increases the number of dead or missing by 5427 people. Clearly, the F and t-tests are significant and the VIF calculations are low enough to eschew concerns about multicollinearity.

Some comparisons with the two above regressions are needed. I calculated the average number of dead or missing individuals across all cantons to be 16158 which means that between 6.1% and 7.8% increases for each town added to a canton translates to between 520 and 665 additional people dead or missing. Similarly, the 37% increase in dead or missing as a result of

the addition of a dam corresponds to 3155 additional people dead or missing. These numbers are roughly consistent with the results of this regression.

For the Durbin-Watson: Alpha=0.05, k'=2, n=18, dl=1.046, du=1.535, so 2.772<3.535 and we fail to reject Ho.

```
. reg Dead_Missing Towns Dams, vce(robust)

Linear regression                               Number of obs =      18
                                                F(  2,    15) =   42.61
                                                Prob > F      =  0.0000
                                                R-squared     =  0.7756
                                                Root MSE      =  3325.5

------------------------------------------------------------------------------
             |               Robust
Dead_Missing |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
       Towns |     745.09   178.6799     4.17   0.001     364.2427    1125.937
        Dams |   5427.714   1325.766     4.09   0.001      2601.91    8253.518
       _cons |       2248   1532.747     1.47   0.163    -1018.973    5514.972
------------------------------------------------------------------------------
```

The robust standard errors confirm that both Towns and Dams remain significant.

```
. estat imtest, white

White's test for Ho: homoskedasticity
         against Ha: unrestricted heteroskedasticity

         chi2(5)      =      3.41
         Prob > chi2  =    0.6363
```

```
Cameron & Trivedi's decomposition of IM-test

---------------------------------------------------
              Source |       chi2     df      p
---------------------+-----------------------------
  Heteroskedasticity |       3.41      5    0.6363
            Skewness |       3.39      2    0.1832
            Kurtosis |       0.99      1    0.3195
---------------------+-----------------------------
               Total |       7.80      8    0.4533
---------------------------------------------------
```

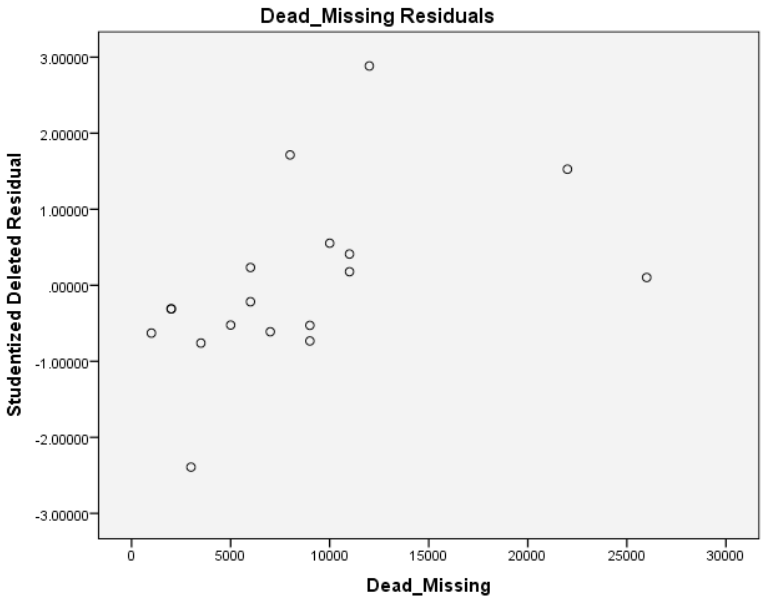
Alpha=0.05, df=5, chi=11.0705, 3.41<11.0705, so we fail to reject Ho and state that the model does not have heteroskedasticity.

```
. ovtest, rhs
(note:  Dams^2 dropped because of collinearity)
(note:  Dams^3 dropped because of collinearity)

Ramsey RESET test using powers of the independent variables
       Ho:  model has no omitted variables
                  F(4, 11) =      1.49
                  Prob > F =      0.2706
```

Alpha=0.05, numerator=4, denominator=11, F=3.36, 1.49<3.36 so fail to reject Ho.

```
. ovtest

Ramsey RESET test using powers of the fitted values of Dead_Missing
       Ho:  model has no omitted variables
                  F(3, 12) =      1.90
                  Prob > F =      0.1835
```

Alpha=0.05, numerator=3, denominator=12, F=3.49, 1.90<3.49 so fail to reject Ho.



Looking at the residual plot, the residuals look fairly randomly distributed. There are no obvious patterns that imply heteroskedasticity or autocorrelation.

Proportion of Victims in the Population:

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.663[a]	.440	.370	.025291911	1.275

a. Predictors: (Constant), Poverty_Risk

b. Dependent Variable: Victims_Pop

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.004	1	.004	6.285	.037[b]
	Residual	.005	8	.001		
	Total	.009	9			

a. Dependent Variable: Victims_Pop

b. Predictors: (Constant), Poverty_Risk

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.000	.016		-.006	.995		
	Poverty_Risk	.001	.001	.663	2.507	.037	1.000	1.000

a. Dependent Variable: Victims_Pop

Excluded Variables[a]

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics		
						Tolerance	VIF	Minimum Tolerance
1	Forest	.193[b]	.705	.504	.257	1.000	1.000	1.000

a. Dependent Variable: Victims_Pop

b. Predictors in the Model: (Constant), Poverty_Risk

We note that the stepwise regression process has eliminated the Forest variable and left only Poverty Risk, which explains 37% of the variation in the percentage of victims in the population. This is pretty abysmal, but the best regression we can hope for using this dependent variable. A one percent increase in the poverty risk in a given canton increases the percentage of victims in the population of that canton by 0.1%, which is a very small increase. The F-test is significant, but not clearly so.

For the Durbin-Watson: Alpha=0.05, k'=1, n=10, dl=0.879, du=1.320, 1.275>0.680 so we fail to reject Ho.

```
. reg Victims_Pop Poverty_Risk, vce(robust)

Linear regression                               Number of obs =      10
                                                F(  1,     8) =    2.03
                                                Prob > F      =  0.1920
                                                R-squared     =  0.3163
                                                Root MSE      =  .02794

------------------------------------------------------------------------------
             |               Robust
```

```
 Victims_Pop |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
Poverty_Risk |   .0023774   .0016682     1.43   0.192    -.0014695    .0062244
       _cons |   .0114346   .0149477     0.76   0.466    -.0230349    .0459041
------------------------------------------------------------------------------
```

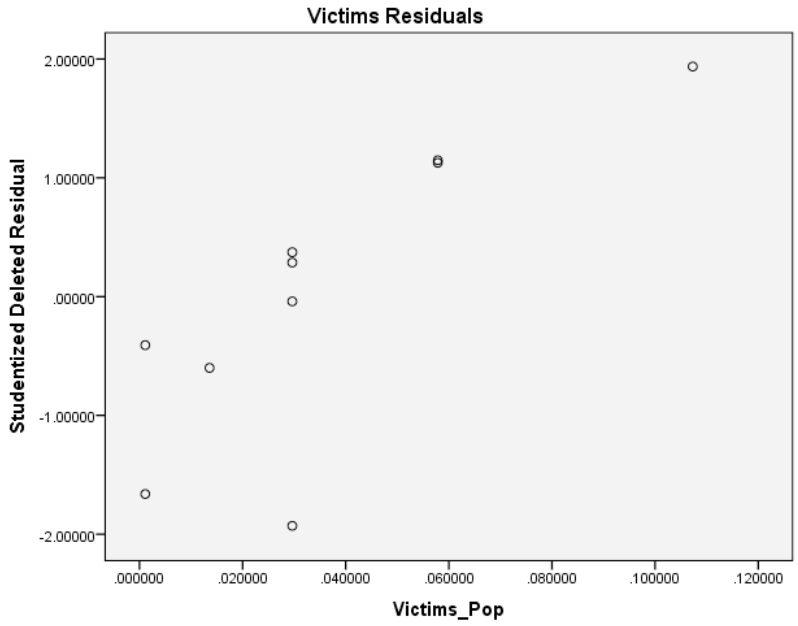
The robust standard errors show that Poverty Risk is not significant. Thus, this entire regression is essentially meaningless.

```
. estat imtest, white

White's test for Ho: homoskedasticity
         against Ha: unrestricted heteroskedasticity

         chi2(2)      =      6.70
         Prob > chi2  =    0.0350

Cameron & Trivedi's decomposition of IM-test

---------------------------------------------------
              Source |       chi2     df      p
---------------------+-----------------------------
  Heteroskedasticity |       6.70      2    0.0350
            Skewness |       0.01      1    0.9214
            Kurtosis |       1.50      1    0.2208
---------------------+-----------------------------
               Total |       8.21      4    0.0841
---------------------------------------------------
```

Alpha=0.05, df=2, chi=5.9915, 6.70>5.9915 so reject Ho and there is heteroskedasticity.

```
. ovtest, rhs

Ramsey RESET test using powers of the independent variables
       Ho:  model has no omitted variables
                  F(3, 5) =      5.15
                 Prob > F =      0.0546
```

Alpha=0.05, numerator=3, denominator=5, F=5.41, 5.15<5.41 so fail to reject Ho.



These residuals have a clear increasing pattern and it also appears to be curved like a square root function or something similar. We discount this regression model due to its failed F-test and heteroskedasticity.

Peacekeeping Events:

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.540[a]	.292	.248	22.210	2.034

a. Predictors: (Constant), Dams

b. Dependent Variable: Peacekeeping_Events

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3253.556	1	3253.556	6.596	.021[b]
	Residual	7892.722	16	493.295		
	Total	11146.278	17			

a. Dependent Variable: Peacekeeping_Events

b. Predictors: (Constant), Dams

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	10.889	5.853		1.860	.081		
	Dams	20.167	7.853	.540	2.568	.021	1.000	1.000

a. Dependent Variable: Peacekeeping_Events

The only variable to use in this regression after eliminating the other dependent variables is Dams. We can be very confident that this regression model has many problems. An additional dam in a given canton will increase the number of peacekeeping events in that canton by twenty. Dams only explain 25% of the variation in the number of peacekeeping events, however. The F-test is significant.

For the Durbin-Watson: Alpha=0.05, k'=1, n=18, dl=1.158, du=1.391, 2.034<3.391 so we fail to reject Ho.

```
. reg Peacekeeping_Events Dams, vce(robust)

Linear regression                                      Number of obs =      18
                                                       F(  1,    16) =    1.91
                                                       Prob > F      =  0.1865
                                                       R-squared     =  0.2919
                                                       Root MSE      =   22.21

------------------------------------------------------------------------------
             |               Robust
Peacekeepi~s |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
        Dams |   20.16667   14.60975     1.38   0.186    -10.80463    51.13796
       _cons |   10.88889   3.798611     2.87   0.011     2.836193    18.94158
------------------------------------------------------------------------------
```

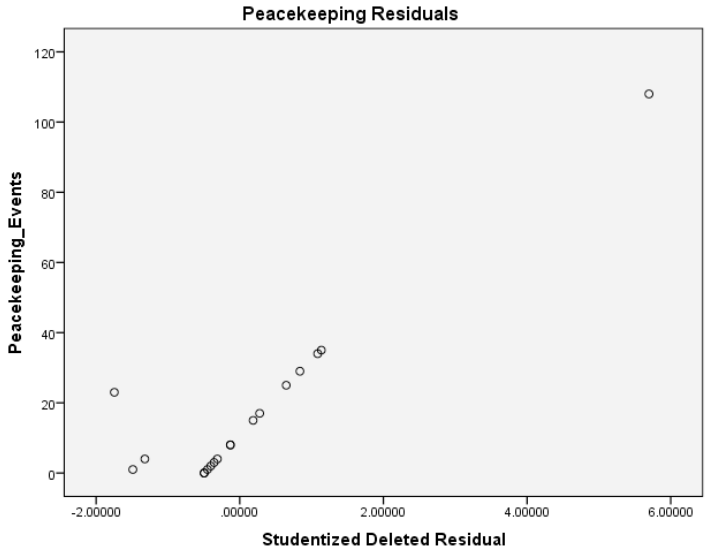
The robust standard errors demonstrate that the confidence interval overlaps zero. Thus, we cannot say that there is a positive correlation between the number of peacekeeping events and the number of dams in a particular canton.

```
. estat imtest, white

White's test for Ho: homoskedasticity
         against Ha: unrestricted heteroskedasticity

         chi2(2)      =     11.67
         Prob > chi2  =    0.0029

Cameron & Trivedi's decomposition of IM-test

---------------------------------------------------
              Source |       chi2     df      p
---------------------+-----------------------------
  Heteroskedasticity |      11.67      2    0.0029
            Skewness |       9.39      1    0.0022
            Kurtosis |       0.71      1    0.4003
---------------------+-----------------------------
               Total |      21.77      4    0.0002
---------------------------------------------------
```

Alpha=0.05, df=2, chi=5.9915, 11.67>5.9915 so reject Ho and we find heteroskedasticity.

```
. ovtest, rhs
(note:  Dams^2 dropped because of collinearity)
(note:  Dams^3 dropped because of collinearity)

Ramsey RESET test using powers of the independent variables
       Ho:  model has no omitted variables
                  F(1, 15) =      5.43
                  Prob > F =      0.0342
```

Alpha=0.05, numerator=1, denominator=15, F=4.54, 5.43>4.54 so reject Ho and we find that there are omitted variables in this regression model.



It should be completely obvious from looking at this residual plot that heteroskedasticity exists in this regression model.

Conflict Points:

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.535[a]	.287	.242	10.298	1.597

a. Predictors: (Constant), Rail_Lines

b. Dependent Variable: Conflict_Points

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	682.031	1	682.031	6.431	.022[b]
	Residual	1696.914	16	106.057		
	Total	2378.944	17			

a. Dependent Variable: Conflict_Points

b. Predictors: (Constant), Rail_Lines

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	1.392	3.876		.359	.724		
	Rail_Lines	3.208	1.265	.535	2.536	.022	1.000	1.000

a. Dependent Variable: Conflict_Points

Excluded Variables[a]

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics		
						Tolerance	VIF	Minimum Tolerance
1	RS_Distance	.324[b]	1.461	.165	.353	.847	1.180	.847
	GDP_Capita	.365[b]	1.740	.102	.410	.901	1.110	.901

a. Dependent Variable: Conflict_Points

b. Predictors in the Model: (Constant), Rail_Lines

We find that RS Distance and GDP per capita are both excluded from the regression analysis, so the only independent variable in the regression is the number of rail lines crossing a particular canton. If you are thinking that this must do a poor job of representing the number of conflict points in a canton, you are completely correct. We somehow manage to explain 25% of the variation in the number of conflict points by the number of rail lines. An additional rail line in a canton increases the number of conflict points by 3.2 in that canton. The F-test is significant.

For the Durbin-Watson: Alpha=0.05, k'=1, n=18, dl=1.158, du=1.391, 1.597<0.609 so we fail to reject the Ho.

```
. reg Peacekeeping_Events Rail_Lines, vce(robust)

Linear regression                                      Number of obs =      18
                                                       F(  1,    16) =    0.00
                                                       Prob > F      =  0.9686
                                                       R-squared     =  0.0001
                                                       Root MSE      =  26.393

------------------------------------------------------------------------------
             |               Robust
Peacekeepi~s |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
  Rail_Lines |    .101425   2.534798     0.04   0.969    -5.272106    5.474956
       _cons |   17.36882   11.57025     1.50   0.153    -7.159021    41.89666
------------------------------------------------------------------------------
```

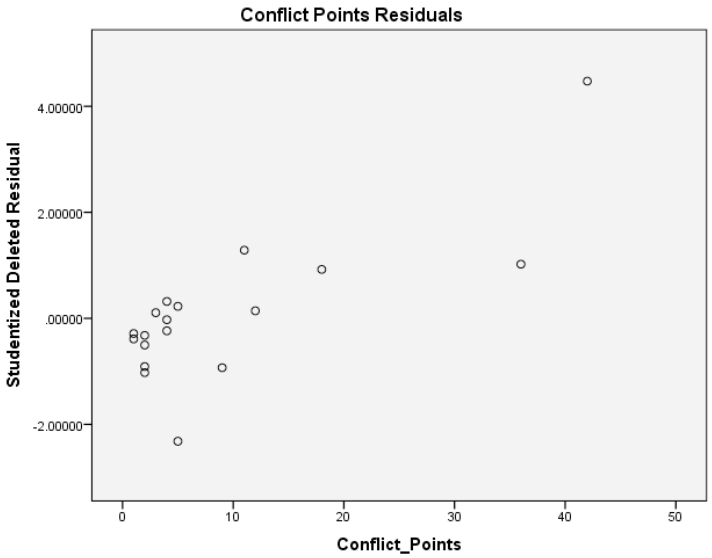
The robust standard errors show that Rail Lines are not statistically significant, as the confidence interval crosses zero. Thus, this regression model is essentially meaningless.

```
. estat imtest, white

White's test for Ho: homoskedasticity
         against Ha: unrestricted heteroskedasticity

         chi2(2)      =      0.78
         Prob > chi2  =    0.6758

Cameron & Trivedi's decomposition of IM-test

---------------------------------------------------
              Source |       chi2     df      p
---------------------+-----------------------------
  Heteroskedasticity |       0.78      2    0.6758
            Skewness |       2.33      1    0.1268
            Kurtosis |       1.54      1    0.2141
---------------------+-----------------------------
               Total |       4.66      4    0.3243
---------------------------------------------------
```

Alpha=0.05, df=2, chi=5.9915, 0.78<5.9915 so fail to reject Ho.

```
. ovtest, rhs

Ramsey RESET test using powers of the independent variables
       Ho:  model has no omitted variables
                  F(3, 13) =      0.36
                  Prob > F =      0.7806
```

Alpha=0.05, numerator=3, denominator=13, F=3.41, 0.36<3.41 so fail to reject Ho.



There is a pretty clear increasing trend of residuals in this plot, which makes us suspect heteroskedasticity that White's test did not detect.

Mined:

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Density	.	Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100).

a. Dependent Variable: Mined

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.908[a]	.824	.802	.05863	2.248

a. Predictors: (Constant), Density

b. Dependent Variable: Mined

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.129	1	.129	37.449	.000[b]
	Residual	.028	8	.003		
	Total	.156	9			

a. Dependent Variable: Mined

b. Predictors: (Constant), Density

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.080	.030		2.671	.028		
	Density	.001	.000	.908	6.120	.000	1.000	1.000

a. Dependent Variable: Mined

Excluded Variables[a]

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics		
						Tolerance	VIF	Minimum Tolerance
1	GDP_Capita	-.108[b]	-.418	.688	-.156	.368	2.718	.368
	Other	.082[b]	.397	.703	.148	.580	1.725	.580

a. Dependent Variable: Mined

b. Predictors in the Model: (Constant), Density

The only variable remaining after the stepwise regression formula is population density. Data for population density is only available for ten cantons, so I hesitate to even begin analyzing a regression with so little information. The adjusted r-squared indicates that population density explains 80% of the variation in the percentage of a canton that was mined, which is very high. A one person per square kilometer increase in population will increase the percentage of the canton that is mined by 0.10%, which is a very small increase. The F-test is clearly significant.

For the Durbin-Watson: Alpha=0.05, k'=1, n=10, dl=0.879, du=1.320, 2.248<3.320 so we fail to reject Ho.

```
. reg Mined Density, vce(robust)

Linear regression                               Number of obs =      10
                                                F(  1,     8) =  130.49
                                                Prob > F      =  0.0000
                                                R-squared     =  0.8240
                                                Root MSE      =  .05863

------------------------------------------------------------------------------
             |               Robust
       Mined |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     Density |   .0012737   .0001115    11.42   0.000     .0010166    .0015308
       _cons |   .0802766   .0264848     3.03   0.016     .0192026    .1413506
------------------------------------------------------------------------------
```

Under robust standard errors, the positive correlation between Density and Mined holds.

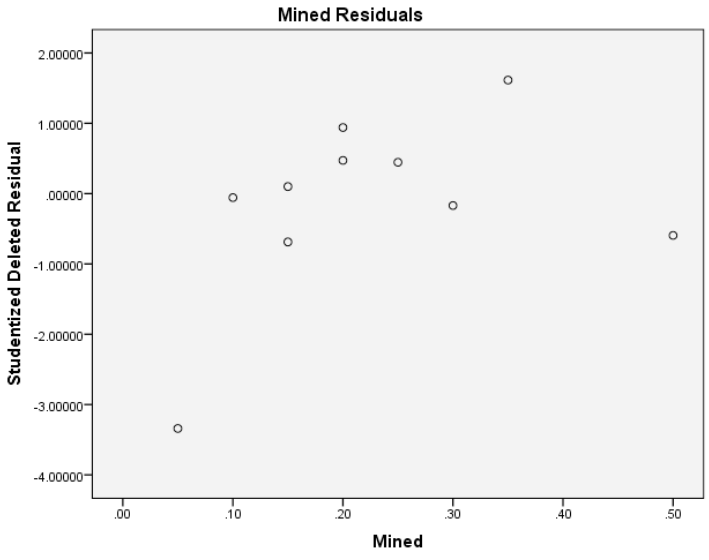
```
. estat imtest, white

White's test for Ho: homoskedasticity
         against Ha: unrestricted heteroskedasticity

         chi2(2)      =      0.60
         Prob > chi2  =    0.7412

Cameron & Trivedi's decomposition of IM-test
```

```
-------------------------------------------------
              Source |       chi2     df      p
---------------------+---------------------------
  Heteroskedasticity |       0.60      2    0.7412
            Skewness |       2.46      1    0.1168
            Kurtosis |       0.56      1    0.4561
---------------------+---------------------------
               Total |       3.61      4    0.4607
-------------------------------------------------
```

Alpha=0.05, df=2, chi=5.9915, 0.60<5.9915 so fail to reject Ho.

```
. ovtest, rhs

Ramsey RESET test using powers of the independent variables
       Ho:  model has no omitted variables
                   F(3, 5) =      0.25
                  Prob > F =      0.8594
```

Alpha=0.05, numerator=3, denominator=5, F=5.41, 0.25<5.41 so fail to reject Ho.



There appears to be a slight upward trend in the residuals, which could indicate possible heteroskedasticity.

Factor Analysis:

Descriptive Statistics

	Mean	Std. Deviation	Analysis N
Rivers	2.72	2.396	18
Wind	4.639	1.6961	18
Solar	1313.89	78.226	18
Forest	.3917	.33705	18
Major_Industries	4.00	4.352	18
Hydro_Thermal	190.83	317.367	18
Dams	.33	.686	18
Forest_Net	267.00	978.673	18
Elevation	700.00	444.244	18
Pastures_Valley	.3139	.36007	18

Correlation Matrix[a]

		Rivers	Wind	Solar	Forest	Major_Industries	Hydro_Thermal	Dams	Forest_Net	Elevation	Pastures_Valley
Correlation	Rivers	1.000	-.026	.116	.354	.558	.169	.310	.384	.019	-.425
	Wind	-.026	1.000	-.237	.025	-.028	.141	-.219	-.397	.461	.529
	Solar	.116	-.237	1.000	-.146	.233	.272	.128	-.337	-.576	-.268
	Forest	.354	.025	-.146	1.000	.389	.262	.229	.446	.216	-.286
	Major_Industries	.558	-.028	.233	.389	1.000	.653	.039	-.046	-.099	-.267
	Hydro_Thermal	.169	.141	.272	.262	.653	1.000	-.003	-.347	-.130	-.003
	Dams	.310	-.219	.128	.229	.039	-.003	1.000	.334	-.068	-.353
	Forest_Net	.384	-.397	-.337	.446	-.046	-.347	.334	1.000	-.028	-.550
	Elevation	.019	.461	-.576	.216	-.099	-.130	-.068	-.028	1.000	.576

	Pastures_ Valley	-.425	.529	-.268	-.286	-.267	-.003	-.353	-.550	.576	1.000
Sig. (1-tailed)	Rivers		.459	.323	.075	.008	.252	.105	.058	.470	.039
	Wind	.459		.172	.460	.456	.288	.191	.051	.027	.012
	Solar	.323	.172		.282	.176	.137	.307	.086	.006	.141
	Forest	.075	.460	.282		.055	.147	.180	.032	.195	.125
	Major_Industries	.008	.456	.176	.055		.002	.438	.428	.348	.143
	Hydro_Thermal	.252	.288	.137	.147	.002		.496	.079	.304	.495
	Dams	.105	.191	.307	.180	.438	.496		.088	.395	.075
	Forest_Net	.058	.051	.086	.032	.428	.079	.088		.456	.009
	Elevation	.470	.027	.006	.195	.348	.304	.395	.456		.006
	Pastures_ Valley	.039	.012	.141	.125	.143	.495	.075	.009	.006	

a. Determinant = .005

Inverse of Correlation Matrix

	Rivers	Wind	Solar	Forest	Major_Industries	Hydro_Thermal	Dams	Forest_Net	Elevation	Pastures_Valley
Rivers	2.815	-.885	-.953	.740	-1.732	.151	-.314	-1.643	-.982	.709
Wind	-.885	1.990	.639	-.591	.634	-.126	.138	1.281	-.035	-.484
Solar	-.953	.639	2.595	-.576	.295	.201	-.334	2.012	1.402	.051
Forest	.740	-.591	-.576	2.405	-.722	-.797	-.072	-1.721	-1.222	.696
Major_Industries	-1.732	.634	.295	-.722	3.295	-1.472	.463	1.039	.039	.388
Hydro_Thermal	.151	-.126	.201	-.797	-1.472	2.563	-.288	1.028	.775	-.410
Dams	-.314	.138	-.334	-.072	.463	-.288	1.349	-.262	-.331	.329
Forest_Net	-1.643	1.281	2.012	-1.721	1.039	1.028	-.262	4.631	.759	.972
Elevation	-.982	-.035	1.402	-1.222	.039	.775	-.331	.759	3.353	-1.988
Pastures_Valley	.709	-.484	.051	.696	.388	-.410	.329	.972	-1.988	3.667

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.536
Bartlett's Test of Sphericity	Approx. Chi-Square	66.829
	df	45
	Sig.	.019

Anti-image Matrices

		Rivers	Wind	Solar	Forest	Major_Industries	Hydro_Thermal	Dams	Forest_Net	Elevation	Pastures_Valley
Anti-image Covariance	Rivers	.355	-.158	-.131	.109	-.187	.021	-.083	-.126	-.104	.069
	Wind	-.158	.503	.124	-.123	.097	-.025	.051	.139	-.005	-.066
	Solar	-.131	.124	.385	-.092	.035	.030	-.096	.167	.161	.005
	Forest	.109	-.123	-.092	.416	-.091	-.129	-.022	-.154	-.151	.079
	Major_Industries	-.187	.097	.035	-.091	.303	-.174	.104	.068	.004	.032
	Hydro_Thermal	.021	-.025	.030	-.129	-.174	.390	-.083	.087	.090	-.044
	Dams	-.083	.051	-.096	-.022	.104	-.083	.741	-.042	-.073	.066
	Forest_Net	-.126	.139	.167	-.154	.068	.087	-.042	.216	.049	.057
	Elevation	-.104	-.005	.161	-.151	.004	.090	-.073	.049	.298	-.162
	Pastures_Valley	.069	-.066	.005	.079	.032	-.044	.066	.057	-.162	.273
Anti-image Correlation	Rivers	.461[a]	-.374	-.353	.284	-.569	.056	-.161	-.455	-.320	.221
	Wind	-.374	.575[a]	.281	-.270	.248	-.056	.084	.422	-.013	-.179
	Solar	-.353	.281	.464[a]	-.231	.101	.078	-.179	.580	.475	.016
	Forest	.284	-.270	-.231	.458[a]	-.256	-.321	-.040	-.516	-.430	.234
	Major_Industries	-.569	.248	.101	-.256	.548[a]	-.507	.219	.266	.012	.112
	Hydro_Thermal	.056	-.056	.078	-.321	-.507	.568[a]	-.155	.298	.264	-.134
	Dams	-.161	.084	-.179	-.040	.219	-.155	.699[a]	-.105	-.156	.148
	Forest_Net	-.455	.422	.580	-.516	.266	.298	-.105	.480[a]	.193	.236

Elevation	-.320	-.013	.475	-.430	.012	.264	-.156	.193	.497[a]	-.567
Pastures_Valley	.221	-.179	.016	.234	.112	-.134	.148	.236	-.567	.719[a]

a. Measures of Sampling Adequacy(MSA)

Communalities

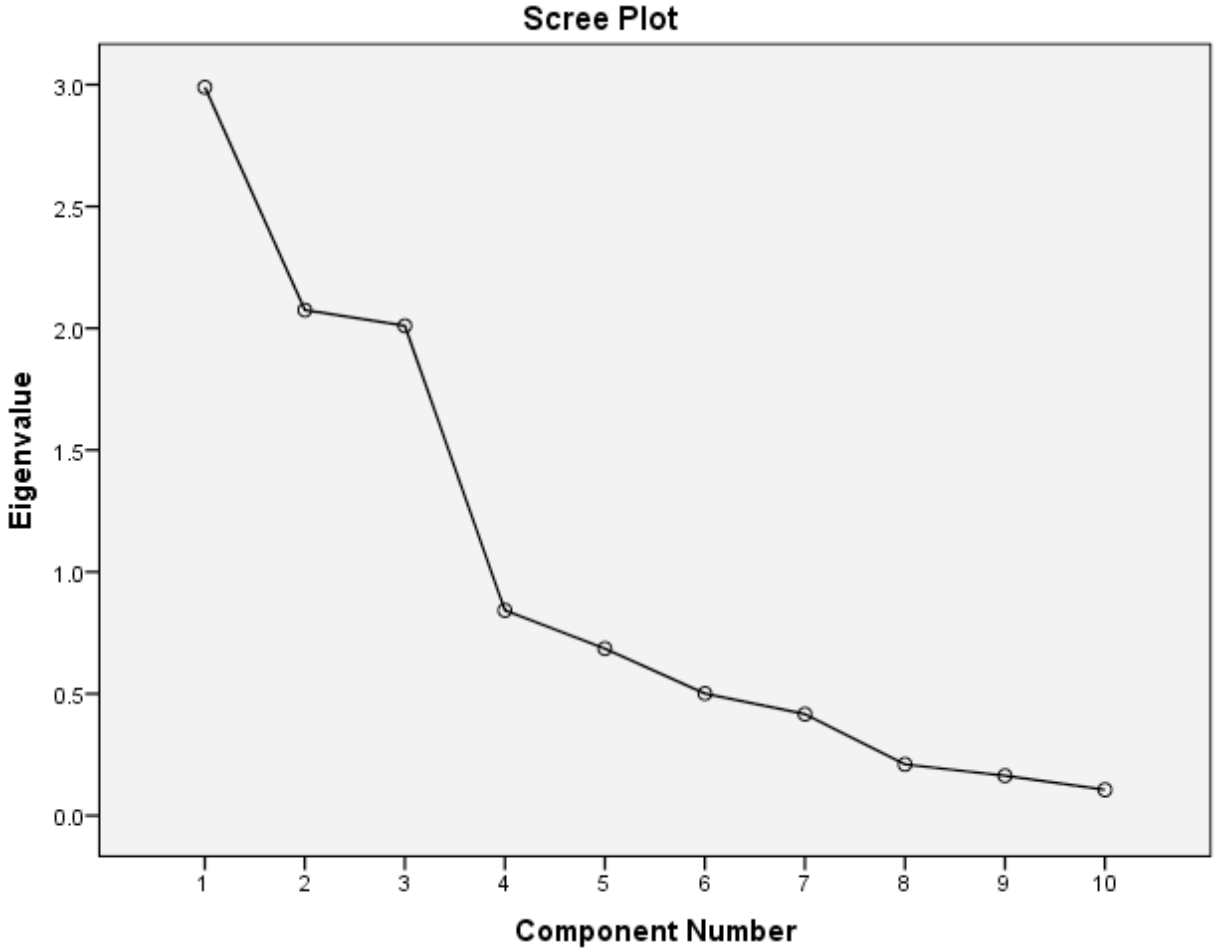
	Initial	Extraction
Rivers	1.000	.619
Wind	1.000	.637
Solar	1.000	.726
Forest	1.000	.664
Major_Industries	1.000	.816
Hydro_Thermal	1.000	.769
Dams	1.000	.324
Forest_Net	1.000	.883
Elevation	1.000	.814
Pastures_Valley	1.000	.822

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.990	29.896	29.896	2.990	29.896	29.896	2.623	26.232	26.232
2	2.075	20.749	50.645	2.075	20.749	50.645	2.236	22.364	48.596
3	2.010	20.104	70.749	2.010	20.104	70.749	2.215	22.153	70.749
4	.843	8.425	79.174						
5	.685	6.853	86.026						
6	.501	5.011	91.038						
7	.416	4.164	95.202						
8	.210	2.103	97.305						
9	.164	1.635	98.940						
10	.106	1.060	100.000						

Extraction Method: Principal Component Analysis.



Component Matrix[a]

	Component		
	1	2	3
Rivers	.652		
Wind	-.546		.524
Solar		.584	-.504
Forest			.653
Major_Industries	.543	.585	
Hydro_Thermal		.786	
Dams	.513		
Forest_Net	.557	-.739	
Elevation			.715
Pastures_Valley	-.862		

Extraction Method: Principal Component Analysis.

a. 3 components extracted.

Reproduced Correlations

		Rivers	Wind	Solar	Forest	Major_Industries	Hydro_Thermal	Dams	Forest_Net	Elevation	Pastures_Valley
Reproduced Correlation	Rivers	.619[a]	-.116	.041	.591	.565	.326	.345	.403	-.018	-.455
	Wind	-.116	.637[a]	-.313	.055	.074	.226	-.317	-.405	.579	.632
	Solar	.041	-.313	.726[a]	-.220	.325	.394	.020	-.313	-.684	-.328
	Forest	.591	.055	-.220	.664[a]	.471	.229	.301	.452	.261	-.279
	Major_Industries	.565	.074	.325	.471	.816[a]	.720	.157	-.061	-.109	-.273
	Hydro_Thermal	.326	.226	.394	.229	.720	.769[a]	-.051	-.396	-.098	-.008
	Dams	.345	-.317	.020	.301	.157	-.051	.324[a]	.473	-.157	-.472
	Forest_Net	.403	-.405	-.313	.452	-.061	-.396	.473	.883[a]	.029	-.566
	Elevation	-.018	.579	-.684	.261	-.109	-.098	-.157	.029	.814[a]	.543
	Pastures_Valley	-.455	.632	-.328	-.279	-.273	-.008	-.472	-.566	.543	.822[a]
Residual[b]	Rivers		.090	.075	-.237	-.006	-.157	-.035	-.019	.037	.030
	Wind	.090		.076	-.030	-.102	-.085	.098	.008	-.119	-.104
	Solar	.075	.076		.075	-.092	-.121	.108	-.023	.108	.060
	Forest	-.237	-.030	.075		-.082	.034	-.072	-.006	-.045	-.007
	Major_Industries	-.006	-.102	-.092	-.082		-.067	-.118	.015	.011	.007
	Hydro_Thermal	-.157	-.085	-.121	.034	-.067		.049	.049	-.032	.005
	Dams	-.035	.098	.108	-.072	-.118	.049		-.139	.090	.119
	Forest_Net	-.019	.008	-.023	-.006	.015	.049	-.139		-.057	.016
	Elevation	.037	-.119	.108	-.045	.011	-.032	.090	-.057		.032
	Pastures_Valley	.030	-.104	.060	-.007	.007	.005	.119	.016	.032	

Extraction Method: Principal Component Analysis.

a. Reproduced communalities

b. Residuals are computed between observed and reproduced correlations. There are 24 (53.0%) nonredundant residuals with absolute values greater than 0.05.

Rotated Component Matrix[a]

	Component		
	1	2	3
Rivers	.578		.532
Wind		.610	
Solar		-.769	
Forest	.578		
Major_Industries			.882
Hydro_Thermal			.845
Dams	.552		
Forest_Net	.905		
Elevation		.899	
Pastures_Valley	-.718	.542	

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 10 iterations.

Component Transformation Matrix

Component	1	2	3
1	.776	-.474	.416
2	-.590	-.314	.744
3	.222	.823	.523

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

Descriptive Statistics

	Mean	Std. Deviation	Analysis N
Towns	6.00	4.511	18
Total_Area	262069.78	231146.346	18
Rail_Lines	2.39	1.975	18
Major_Industries	4.00	4.352	18

Muslim	37.2872	19.98075	18
Serb	32.3156	20.81022	18
Population	205976.72717	167769.625059	18
BIH_Distance	133.394	73.3986	18
lnGDP	8.522723162214602	.440535436131277	18

Correlation Matrix[a]

		Towns	Total_Area	Rail_Lines	Major_Industries	Muslim	Serb	Population	BIH_Distance	lnGDP
Correlation	Towns	1.000	.845	.225	.527	-.070	-.003	.670	.167	.034
	Total_Area	.845	1.000	.189	.320	-.224	.239	.550	.278	.117
	Rail_Lines	.225	.189	1.000	.548	.244	-.211	.549	-.307	.243
	Major_Industries	.527	.320	.548	1.000	.125	-.255	.754	-.149	-.085
	Muslim	-.070	-.224	.244	.125	1.000	-.105	.150	-.216	-.189
	Serb	-.003	.239	-.211	-.255	-.105	1.000	-.084	-.072	.232
	Population	.670	.550	.549	.754	.150	-.084	1.000	-.087	.254
	BIH_Distance	.167	.278	-.307	-.149	-.216	-.072	-.087	1.000	-.295
	lnGDP	.034	.117	.243	-.085	-.189	.232	.254	-.295	1.000
Sig. (1-tailed)	Towns		.000	.185	.012	.391	.495	.001	.254	.447
	Total_Area	.000		.227	.097	.186	.169	.009	.132	.322
	Rail_Lines	.185	.227		.009	.164	.201	.009	.108	.165
	Major_Industries	.012	.097	.009		.310	.154	.000	.278	.368
	Muslim	.391	.186	.164	.310		.340	.276	.195	.227
	Serb	.495	.169	.201	.154	.340		.370	.388	.177
	Population	.001	.009	.009	.000	.276	.370		.365	.154
	BIH_Distance	.254	.132	.108	.278	.195	.388	.365		.117
	lnGDP	.447	.322	.165	.368	.227	.177	.154	.117	

a. Determinant = .007

Inverse of Correlation Matrix

	Towns	Total_Area	Rail_Lines	Major_Industries	Muslim	Serb	Population	BIH_Distance	lnGDP
Towns	5.969	-4.895	1.180	-1.174	-.482	1.050	-.870	.447	.002
Total_Area	-4.895	6.359	-1.284	1.356	1.066	-1.600	-1.017	-1.002	.385
Rail_Lines	1.180	-1.284	2.163	-1.017	-.532	.599	-.193	.415	-.570
Major_Industries	-1.174	1.356	-1.017	4.017	.780	.008	-2.885	.461	1.486
Muslim	-.482	1.066	-.532	.780	1.538	-.251	-.984	.184	.740
Serb	1.050	-1.600	.599	.008	-.251	1.606	.134	.433	-.320
Population	-.870	-1.017	-.193	-2.885	-.984	.134	4.970	-.309	-1.623
BIH_Distance	.447	-1.002	.415	.461	.184	.433	-.309	1.599	.525
lnGDP	.002	.385	-.570	1.486	.740	-.320	-1.623	.525	2.002

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.518
Bartlett's Test of Sphericity	Approx. Chi-Square	64.740
	df	36
	Sig.	.002

Anti-image Matrices

		Towns	Total_Area	Rail_Lines	Major_Industries	Muslim	Serb	Population	BIH_Distance	lnGDP
Anti-image Covariance	Towns	.168	-.129	.091	-.049	-.053	.110	-.029	.047	.000
	Total_Area	-.129	.157	-.093	.053	.109	-.157	-.032	-.099	.030
	Rail_Lines	.091	-.093	.462	-.117	-.160	.172	-.018	.120	-.132
	Major_Industries	-.049	.053	-.117	.249	.126	.001	-.145	.072	.185
	Muslim	-.053	.109	-.160	.126	.650	-.102	-.129	.075	.240
	Serb	.110	-.157	.172	.001	-.102	.623	.017	.169	-.100
	Population	-.029	-.032	-.018	-.145	-.129	.017	.201	-.039	-.163
	BIH_Distance	.047	-.099	.120	.072	.075	.169	-.039	.626	.164

	lnGDP	.000	.030	-.132	.185	.240	-.100	-.163	.164	.499
Anti-image Correlation	Towns	.608[a]	-.795	.328	-.240	-.159	.339	-.160	.145	.001
	Total_Area	-.795	.504[a]	-.346	.268	.341	-.501	-.181	-.314	.108
	Rail_Lines	.328	-.346	.587[a]	-.345	-.292	.321	-.059	.223	-.274
	Major_Industries	-.240	.268	-.345	.559[a]	.314	.003	-.646	.182	.524
	Muslim	-.159	.341	-.292	.314	.269[a]	-.160	-.356	.117	.422
	Serb	.339	-.501	.321	.003	-.160	.288[a]	.047	.270	-.178
	Population	-.160	-.181	-.059	-.646	-.356	.047	.661[a]	-.110	-.515
	BIH_Distance	.145	-.314	.223	.182	.117	.270	-.110	.487[a]	.293
	lnGDP	.001	.108	-.274	.524	.422	-.178	-.515	.293	.259[a]

a. Measures of Sampling Adequacy(MSA)

Communalities

	Initial	Extraction
Towns	1.000	.857
Total_Area	1.000	.887
Rail_Lines	1.000	.692
Major_Industries	1.000	.776
Muslim	1.000	.428
Serb	1.000	.551
Population	1.000	.856
BIH_Distance	1.000	.705
lnGDP	1.000	.734

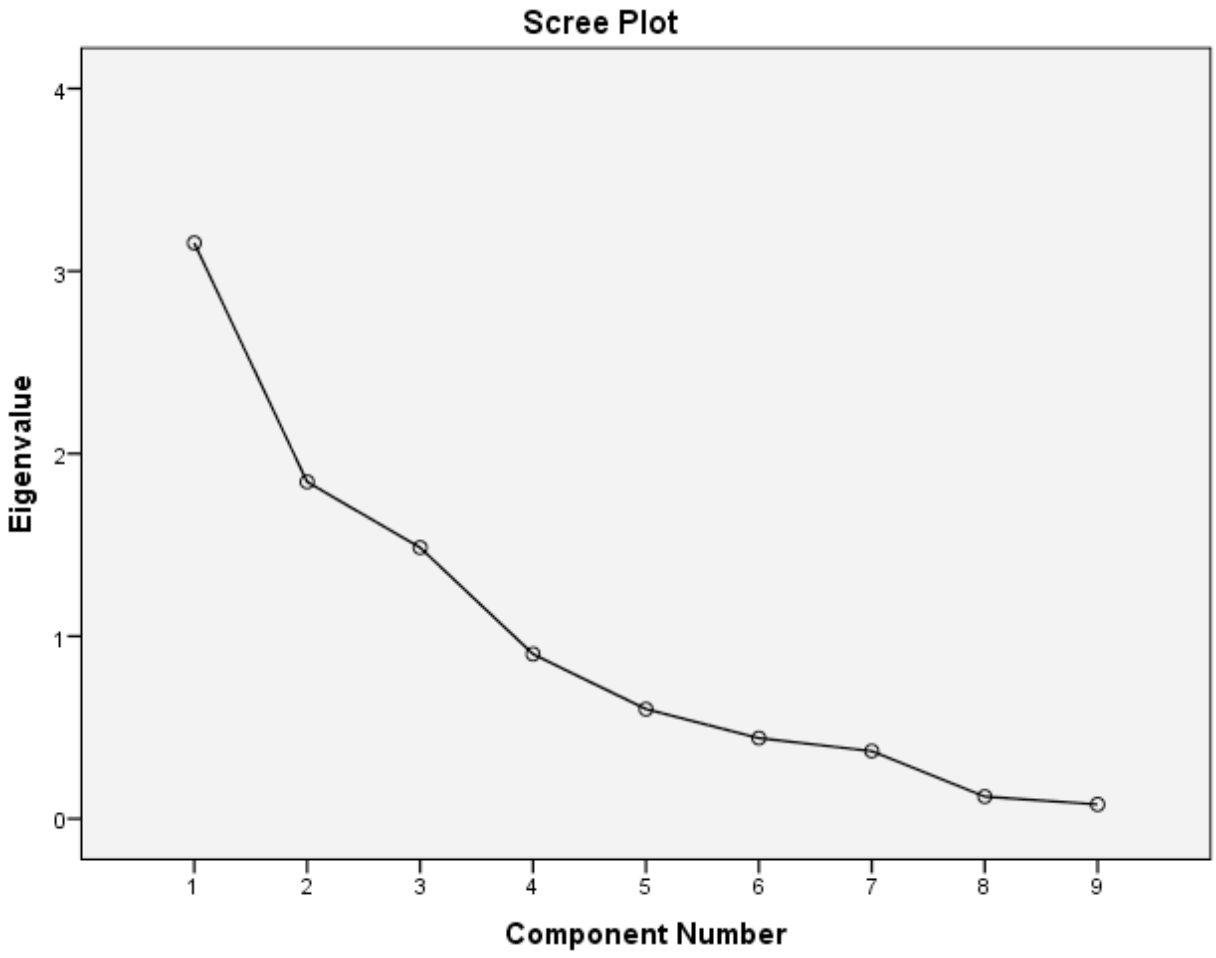
Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.154	35.049	35.049	3.154	35.049	35.049	3.090	34.337	34.337
2	1.845	20.501	55.550	1.845	20.501	55.550	1.759	19.548	53.885

3	1.485	16.506	72.056	1.485	16.506	72.056	1.635	18.171	72.056
4	.902	10.023	82.079						
5	.601	6.673	88.752						
6	.442	4.907	93.659						
7	.371	4.118	97.777						
8	.121	1.350	99.127						
9	.079	.873	100.000						

Extraction Method: Principal Component Analysis.



Component Matrix[a]

	Component		
	1	2	3

Towns	.828		
Total_Area	.720	.604	
Rail_Lines	.636	-.522	
Major_Industries	.805		
Muslim		-.610	
Serb			.618
Population	.919		
BIH_Distance		.659	-.517
lnGDP			.834

Extraction Method: Principal Component Analysis.

a. 3 components extracted.

Reproduced Correlations

		Towns	Total_Area	Rail_Lines	Major_Industries	Muslim	Serb	Population	BIH_Distance	lnGDP
Reproduced Correlation	Towns	.857[a]	.829	.304	.585	-.156	.011	.717	.274	.050
	Total_Area	.829	.887[a]	.150	.402	-.329	.212	.606	.324	.169
	Rail_Lines	.304	.150	.692[a]	.623	.338	-.192	.640	-.444	.245
	Major_Industries	.585	.402	.623	.776[a]	.277	-.330	.755	-.101	-.032
	Muslim	-.156	-.329	.338	.277	.428[a]	-.389	.117	-.291	-.150
	Serb	.011	.212	-.192	-.330	-.389	.551[a]	-.097	-.051	.483
	Population	.717	.606	.640	.755	.117	-.097	.856[a]	-.140	.219
	BIH_Distance	.274	.324	-.444	-.101	-.291	-.051	-.140	.705[a]	-.466
	lnGDP	.050	.169	.245	-.032	-.150	.483	.219	-.466	.734[a]
Residual[b]	Towns		.016	-.080	-.058	.086	-.014	-.047	-.107	-.016
	Total_Area	.016		.038	-.081	.105	.027	-.056	-.046	-.052
	Rail_Lines	-.080	.038		-.075	-.094	-.019	-.091	.137	-.002
	Major_Industries	-.058	-.081	-.075		-.152	.075	.000	-.047	-.053
	Muslim	.086	.105	-.094	-.152		.285	.033	.075	-.039
	Serb	-.014	.027	-.019	.075	.285		.013	-.021	-.250
	Population	-.047	-.056	-.091	.000	.033	.013		.053	.035

	BIH_Distance	-.107	-.046	.137	-.047	.075	-.021	.053		.171
	lnGDP	-.016	-.052	-.002	-.053	-.039	-.250	.035	.171	

Extraction Method: Principal Component Analysis.

a. Reproduced communalities

b. Residuals are computed between observed and reproduced correlations. There are 20 (55.0%) nonredundant residuals with absolute values greater than 0.05.

Rotated Component Matrix[a]

	Component		
	1	2	3
Towns	.898		
Total_Area	.820		
Rail_Lines	.505	.601	
Major_Industries	.749		
Muslim			-.562
Serb			.737
Population	.874		
BIH_Distance		-.831	
lnGDP		.590	.610

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 6 iterations.

Component Transformation Matrix

Component	1	2	3
1	.976	.206	-.069
2	.203	-.751	.628
3	-.078	.627	.775

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

Descriptive Statistics

	Mean	Std. Deviation	Analysis N

Conflict_Points	9.06	11.830	18
Mined	.2139	.12811	18
Peacekeeping_Events	17.61	25.606	18
Dead_Missing	8527.78	6594.276	18

Correlation Matrix[a]

		Conflict_Points	Mined	Peacekeeping_Events	Dead_Missing
Correlation	Conflict_Points	1.000	.265	.105	.206
	Mined	.265	1.000	-.117	-.140
	Peacekeeping_Events	.105	-.117	1.000	.638
	Dead_Missing	.206	-.140	.638	1.000
Sig. (1-tailed)	Conflict_Points		.144	.339	.206
	Mined	.144		.321	.290
	Peacekeeping_Events	.339	.321		.002
	Dead_Missing	.206	.290	.002	

a. Determinant = .504

Inverse of Correlation Matrix

	Conflict_Points	Mined	Peacekeeping_Events	Dead_Missing
Conflict_Points	1.151	-.344	.034	-.307
Mined	-.344	1.124	.039	.203
Peacekeeping_Events	.034	.039	1.690	-1.080
Dead_Missing	-.307	.203	-1.080	1.781

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.508
Bartlett's Test of Sphericity	Approx. Chi-Square	10.154
	df	6
	Sig.	.118

Anti-image Matrices

		Conflict_Points	Mined	Peacekeeping_Events	Dead_Missing
Anti-image Covariance	Conflict_Points	.869	-.266	.018	-.150
	Mined	-.266	.889	.020	.102
	Peacekeeping_Events	.018	.020	.592	-.359
	Dead_Missing	-.150	.102	-.359	.562
Anti-image Correlation	Conflict_Points	.473[a]	-.303	.024	-.214
	Mined	-.303	.479[a]	.028	.144
	Peacekeeping_Events	.024	.028	.526[a]	-.623
	Dead_Missing	-.214	.144	-.623	.508[a]

a. Measures of Sampling Adequacy(MSA)

Communalities

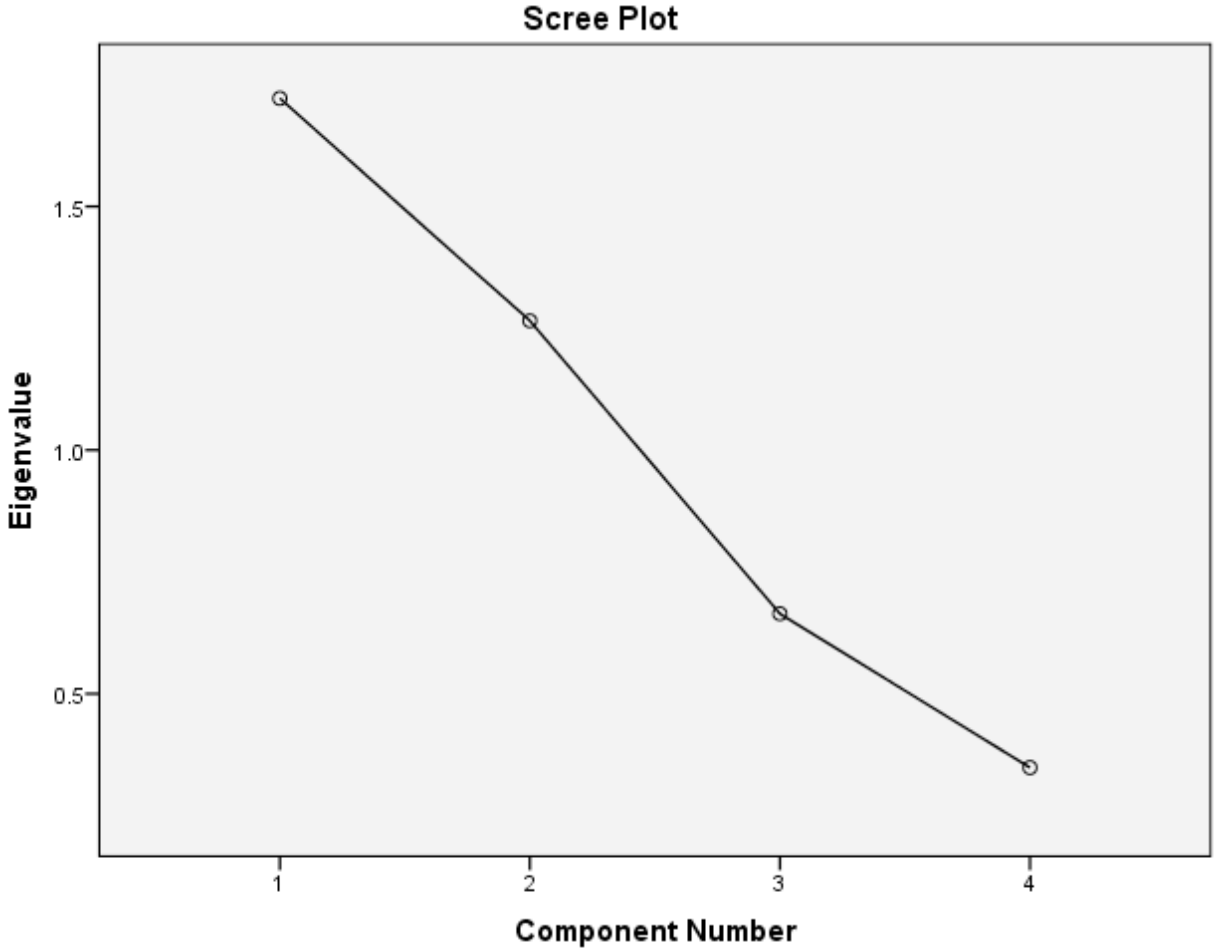
	Initial	Extraction
Conflict_Points	1.000	.696
Mined	1.000	.701
Peacekeeping_Events	1.000	.774
Dead_Missing	1.000	.815

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.722	43.046	43.046	1.722	43.046	43.046	1.720	43.012	43.012
2	1.266	31.638	74.683	1.266	31.638	74.683	1.267	31.672	74.683
3	.664	16.605	91.288						
4	.348	8.712	100.000						

Extraction Method: Principal Component Analysis.



Component Matrix[a]

	Component	
	1	2
Conflict_Points		.774
Mined		.812
Peacekeeping_Events	.877	
Dead_Missing	.903	

Extraction Method: Principal Component Analysis.

a. 2 components extracted.

Reproduced Correlations

		Conflict_Points	Mined	Peacekeeping_Events	Dead_Missing
Reproduced Correlation	Conflict_Points	.696[a]	.566	.214	.273
	Mined	.566	.701[a]	-.240	-.192
	Peacekeeping_Events	.214	-.240	.774[a]	.792
	Dead_Missing	.273	-.192	.792	.815[a]
Residual[b]	Conflict_Points		-.301	-.108	-.067
	Mined	-.301		.122	.052
	Peacekeeping_Events	-.108	.122		-.154
	Dead_Missing	-.067	.052	-.154	

Extraction Method: Principal Component Analysis.

a. Reproduced communalities

b. Residuals are computed between observed and reproduced correlations. There are 6 (100.0%) nonredundant residuals with absolute values greater than 0.05.

Rotated Component Matrix[a]

	Component	
	1	2
Conflict_Points		.790
Mined		.800
Peacekeeping_Events	.880	
Dead_Missing	.902	

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 3 iterations.

Component Transformation Matrix

Component	1	2
1	.999	.054
2	-.054	.999

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

Correlations

		NR_1	NR_2	NR_3	O_1	O_2	O_3	D_1	D_2	Conflict_Points	Peacekeeping_Events	Victims_Pop	Dead_Missing	lnDead	Mined
NR_1	Pearson Correlation	1	.000	.000	.308	.167	.031	.407	-.166	-.227	.291	.380	.544*	.422	-.042
	Sig. (2-tailed)		1.000	1.000	.213	.507	.902	.093	.510	.364	.241	.120	.020	.081	.867
	N	18	18	18	18	18	18	18	18	18	18	18	18	18	18
NR_2	Pearson Correlation	.000	1	.000	.074	.293	.226	.176	-.012	.296	.066	.117	.098	.265	-.309
	Sig. (2-tailed)	1.000		1.000	.771	.238	.367	.485	.961	.233	.795	.645	.697	.288	.212
	N	18	18	18	18	18	18	18	18	18	18	18	18	18	18
NR_3	Pearson Correlation	.000	.000	1	.691**	.124	-.316	.297	.278	.418	.082	.039	.376	.525*	.021
	Sig. (2-tailed)	1.000	1.000		.001	.623	.202	.231	.265	.084	.747	.876	.124	.025	.935
	N	18	18	18	18	18	18	18	18	18	18	18	18	18	18
O_1	Pearson Correlation	.308	.074	.691**	1	.000	.000	.468	.163	.282	.095	-.170	.711**	.734**	-.037
	Sig. (2-tailed)	.213	.771	.001		1.000	1.000	.050	.517	.257	.708	.499	.001	.001	.884
	N	18	18	18	18	18	18	18	18	18	18	18	18	18	18
O_2	Pearson Correlation	.167	.293	.124	.000	1	.000	.139	.555*	.490*	.151	.103	.097	.259	.400

	Sig. (2-tailed)	.507	.238	.623	1.000		1.000	.583	.017	.039	.551	.684	.703	.299	.100
	N	18	18	18	18	18	18	18	18	18	18	18	18	18	18
O_3	Pearson Correlation	.031	.226	-.316	.000	.000	1	.096	-.245	-.132	-.076	.191	.216	.160	-.268
	Sig. (2-tailed)	.902	.367	.202	1.000	1.000		.704	.326	.601	.766	.447	.390	.526	.282
	N	18	18	18	18	18	18	18	18	18	18	18	18	18	18
D_1	Pearson Correlation	.407	.176	.297	.468	.139	.096	1	.000	.268	.880**	.133	.902**	.812**	-.247
	Sig. (2-tailed)	.093	.485	.231	.050	.583	.704		1.000	.282	.000	.598	.000	.000	.323
	N	18	18	18	18	18	18	18	18	18	18	18	18	18	18
D_2	Pearson Correlation	-.166	-.012	.278	.163	.555*	-.245	.000	1	.790**	-.028	-.197	.039	.078	.800**
	Sig. (2-tailed)	.510	.961	.265	.517	.017	.326	1.000		.000	.912	.434	.877	.759	.000
	N	18	18	18	18	18	18	18	18	18	18	18	18	18	18
Conflict_Points	Pearson Correlation	-.227	.296	.418	.282	.490*	-.132	.268	.790**	1	.105	-.101	.206	.318	.265
	Sig. (2-tailed)	.364	.233	.084	.257	.039	.601	.282	.000		.677	.691	.413	.198	.287
	N	18	18	18	18	18	18	18	18	18	18	18	18	18	18
Peacekeeping_Events	Pearson Correlation	.291	.066	.082	.095	.151	-.076	.880**	-.028	.105	1	.077	.638**	.527*	-.117
	Sig. (2-tailed)	.241	.795	.747	.708	.551	.766	.000	.912	.677		.762	.004	.025	.642
	N	18	18	18	18	18	18	18	18	18	18	18	18	18	18
Victims_Pop	Pearson Correlation	.380	.117	.039	-.170	.103	.191	.133	-.197	-.101	.077	1	.146	.212	-.212
	Sig. (2-tailed)	.120	.645	.876	.499	.684	.447	.598	.434	.691	.762		.565	.399	.398
	N	18	18	18	18	18	18	18	18	18	18	18	18	18	18

Dead_Missing	Pearson Correlation	.544*	.098	.376	.711**	.097	.216	.902**	.039	.206	.638**	.146	1	.891**	-.140
	Sig. (2-tailed)	.020	.697	.124	.001	.703	.390	.000	.877	.413	.004	.565		.000	.580
	N	18	18	18	18	18	18	18	18	18	18	18	18	18	18
lnDead	Pearson Correlation	.422	.265	.525*	.734**	.259	.160	.812**	.078	.318	.527*	.212	.891**	1	-.191
	Sig. (2-tailed)	.081	.288	.025	.001	.299	.526	.000	.759	.198	.025	.399	.000		.447
	N	18	18	18	18	18	18	18	18	18	18	18	18	18	18
Mined	Pearson Correlation	-.042	-.309	.021	-.037	.400	-.268	-.247	.800**	.265	-.117	-.212	-.140	-.191	1
	Sig. (2-tailed)	.867	.212	.935	.884	.100	.282	.323	.000	.287	.642	.398	.580	.447	
	N	18	18	18	18	18	18	18	18	18	18	18	18	18	18

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.413[a]	.171	.060	.96932795	2.406

a. Predictors: (Constant), O_2, NR_1

b. Dependent Variable: D_1

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.906	2	1.453	1.546	.245[b]
	Residual	14.094	15	.940		
	Total	17.000	17			

a. Dependent Variable: D_1

b. Predictors: (Constant), O_2, NR_1

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.776E-17	.228		.000	1.000
	NR_1	.395	.238	.395	1.657	.118
	O_2	.072	.238	.072	.304	.766

a. Dependent Variable: D_1

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.555[a]	.308	.265	.85758086	1.821

a. Predictors: (Constant), O_2

b. Dependent Variable: D_2

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5.233	1	5.233	7.115	.017[b]
	Residual	11.767	16	.735		
	Total	17.000	17			

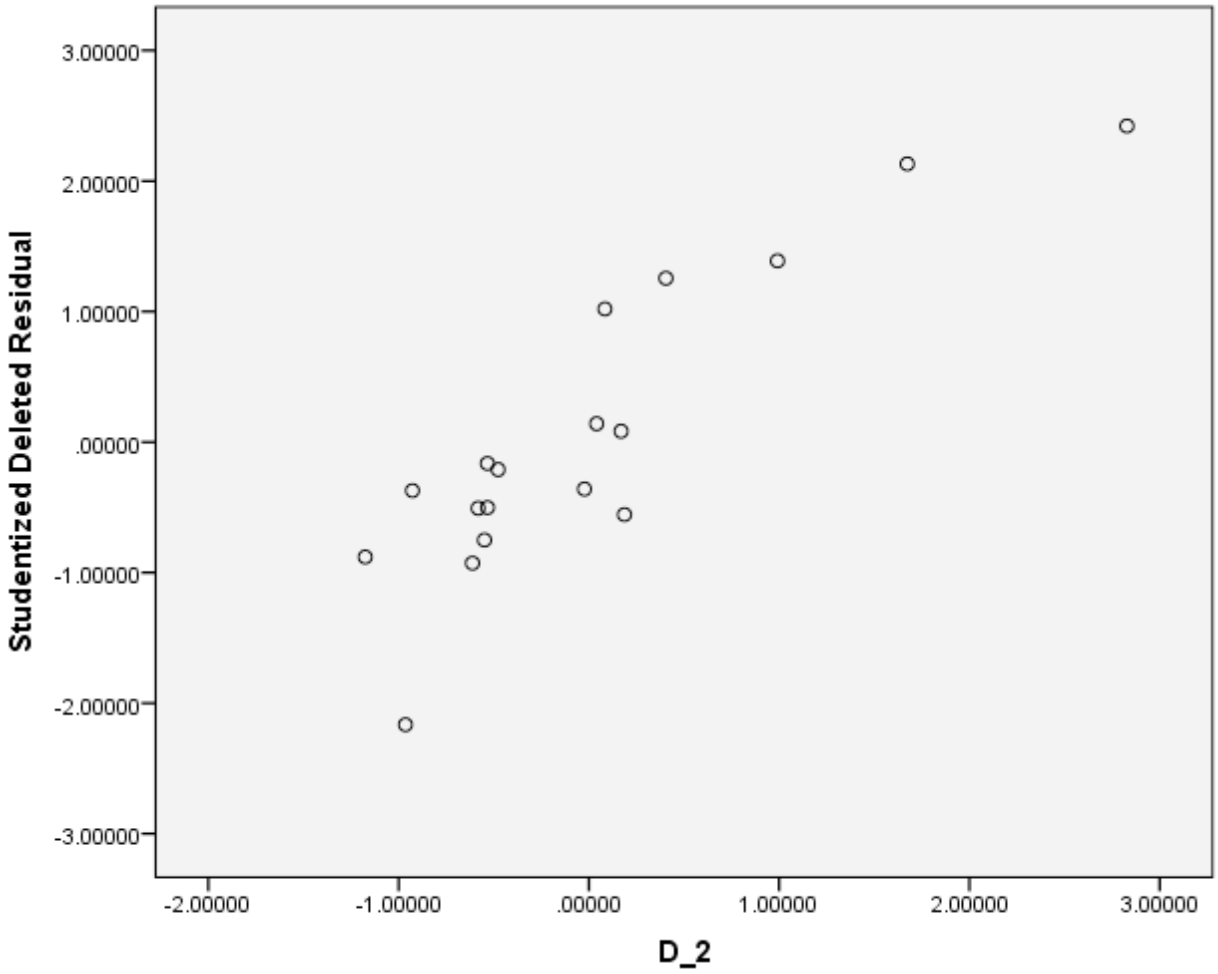
a. Dependent Variable: D_2

b. Predictors: (Constant), O_2

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-1.951E-16	.202		.000	1.000		
	O_2	.555	.208	.555	2.667	.017	1.000	1.000

a. Dependent Variable: D_2



Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.608[a]	.369	.285	10.002	1.363

a. Predictors: (Constant), NR_3, O_2

b. Dependent Variable: Conflict_Points

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	878.336	2	439.168	4.390	.032[b]
	Residual	1500.609	15	100.041		
	Total	2378.944	17			

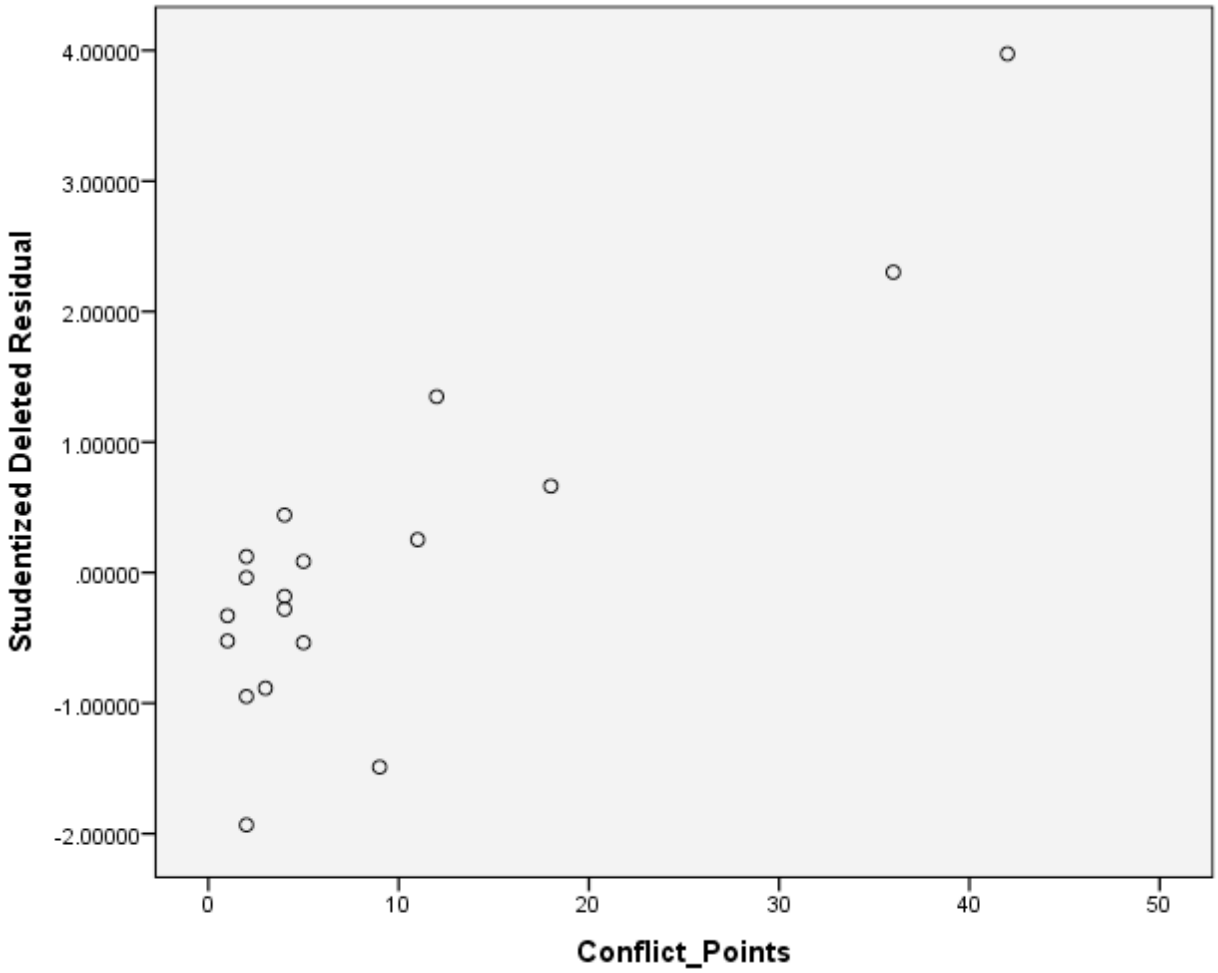
a. Dependent Variable: Conflict_Points

b. Predictors: (Constant), NR_3, O_2

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	9.056	2.358		3.841	.002		
	O_2	5.260	2.445	.445	2.151	.048	.985	1.016
	NR_3	4.289	2.445	.363	1.754	.100	.985	1.016

a. Dependent Variable: Conflict_Points



Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.789[a]	.622	.572	4315.450	2.044

a. Predictors: (Constant), O_1, NR_1

b. Dependent Variable: Dead_Missing

ANOVA[a]

Model	Sum of Squares	df	Mean Square	F	Sig.

1	Regression	459889464.952	2	229944732.476	12.347	.001[b]
	Residual	279346646.159	15	18623109.744		
	Total	739236111.111	17			

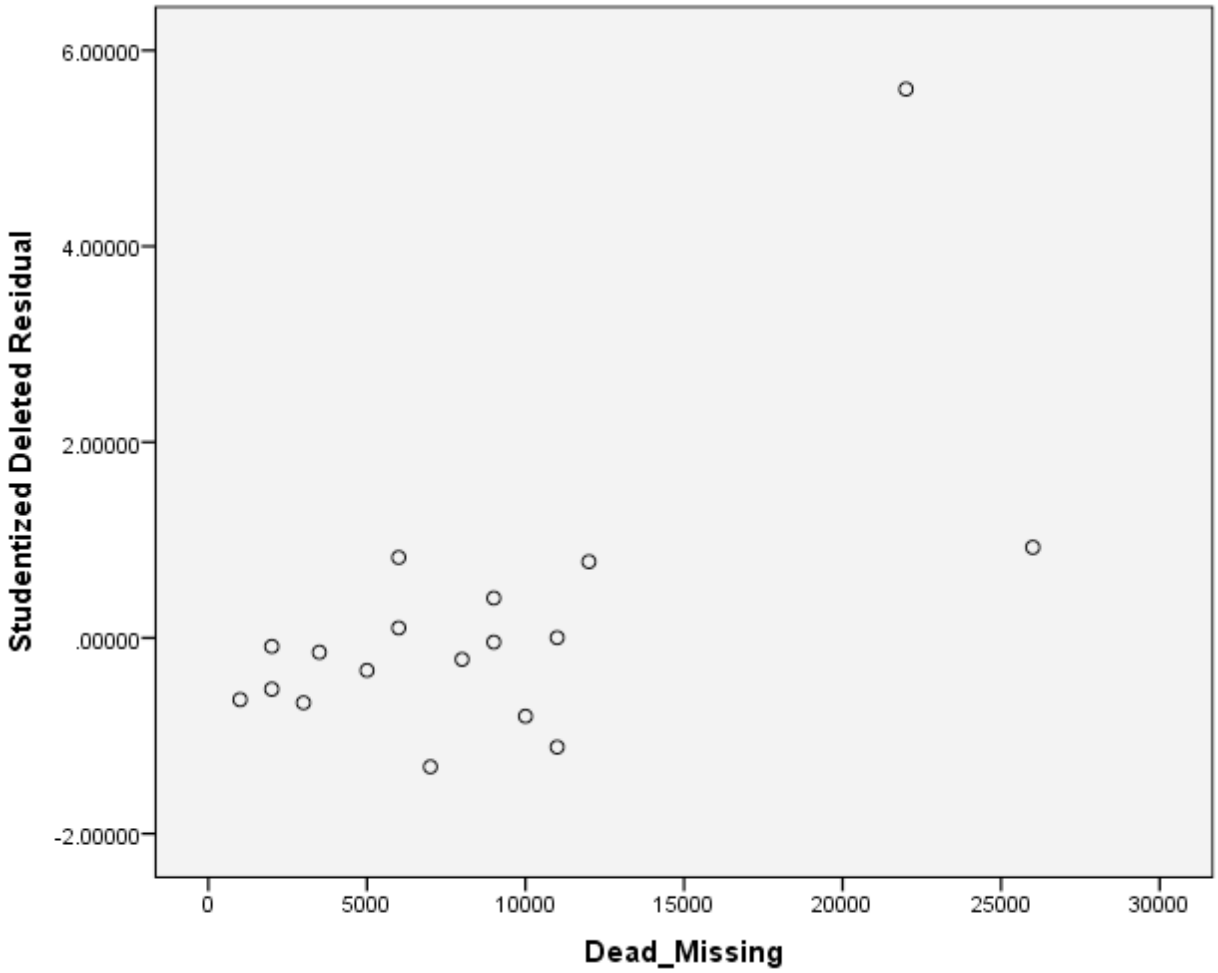
a. Dependent Variable: Dead_Missing

b. Predictors: (Constant), O_1, NR_1

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	8527.778	1017.161		8.384	.000		
	NR_1	2369.512	1100.192	.359	2.154	.048	.905	1.105
	O_1	3957.125	1100.192	.600	3.597	.003	.905	1.105

a. Dependent Variable: Dead_Missing



Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.768[a]	.589	.501	.596428561309038	1.385

a. Predictors: (Constant), NR_1, NR_3, O_1

b. Dependent Variable: lnDead

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	7.139	3	2.380	6.690	.005[b]

	Residual	4.980	14	.356		
	Total	12.119	17			

a. Dependent Variable: lnDead

b. Predictors: (Constant), NR_1, NR_3, O_1

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	8.757	.141		62.291	.000		
	NR_1	.209	.160	.248	1.310	.211	.818	1.222
	NR_3	.115	.210	.136	.545	.594	.472	2.117
	O_1	.476	.221	.563	2.150	.050	.428	2.339

a. Dependent Variable: lnDead

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.400[a]	.160	.107	.12105	1.317

a. Predictors: (Constant), O_2

b. Dependent Variable: Mined

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.045	1	.045	3.042	.100[b]
	Residual	.234	16	.015		
	Total	.279	17			

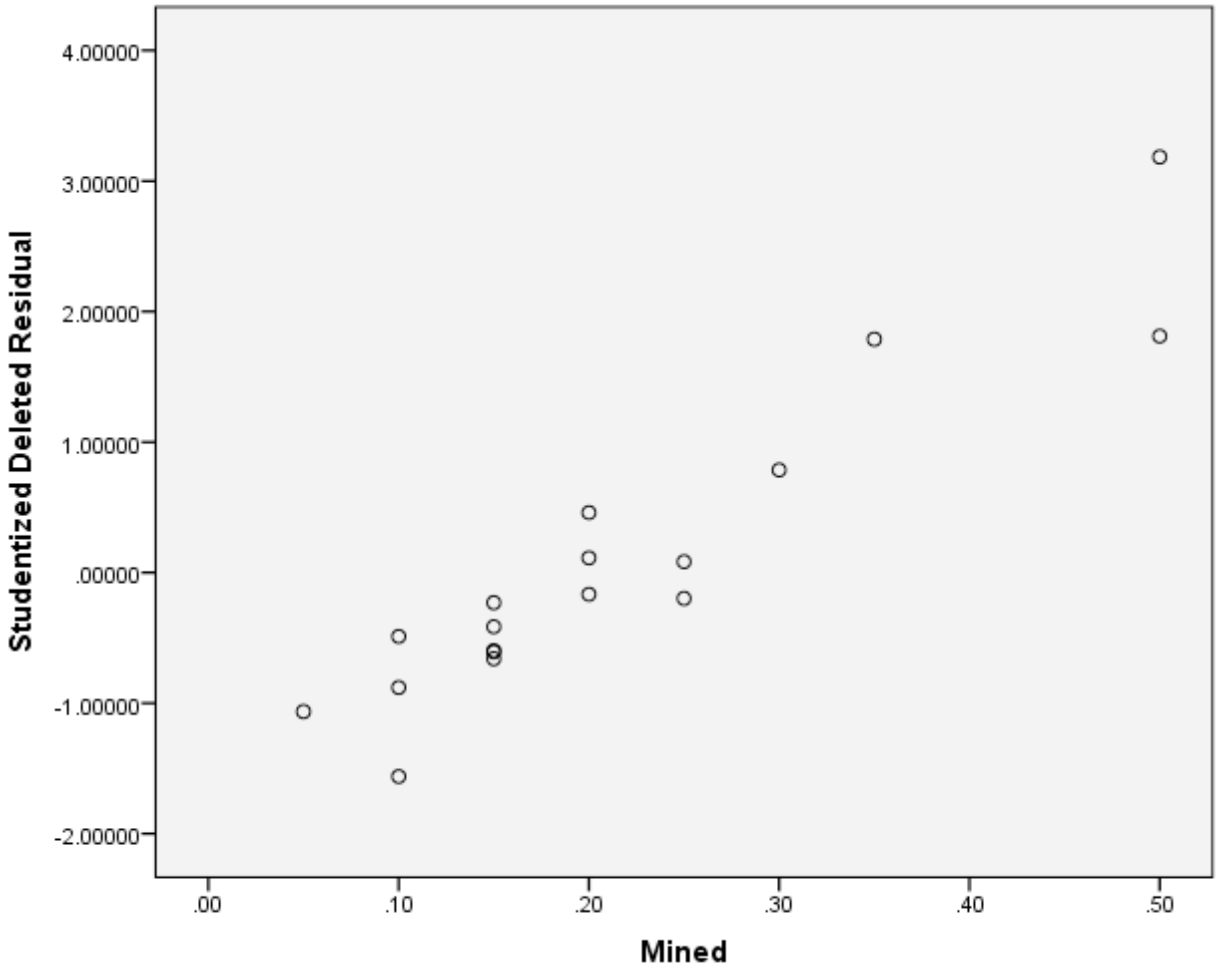
a. Dependent Variable: Mined

b. Predictors: (Constant), O_2

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.214	.029		7.497	.000		
	O_2	.051	.029	.400	1.744	.100	1.000	1.000

a. Dependent Variable: Mined



. regress Dead_Missing NR_1 O_1, vce(robust)

Linear regression Number of obs = 18

F(2, 15) = 23.69

```
                                Prob > F      =  0.0000
                                R-squared     =  0.6221
                                Root MSE      =  4315.5

------------------------------------------------------------------------------
             |               Robust
Dead_Missing |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
       NR_1 |   2369.512   1074.247     2.21   0.043     79.8075    4659.216
        O_1 |   3957.125   864.9572     4.57   0.000     2113.513    5800.738
      _cons |   8527.778   1017.161     8.38   0.000     6359.75    10695.81
------------------------------------------------------------------------------

. estat imtest, white

White's test for Ho: homoskedasticity
         against Ha: unrestricted heteroskedasticity

         chi2(5)      =      3.09
         Prob > chi2  =    0.6866

Cameron & Trivedi's decomposition of IM-test

---------------------------------------------------
              Source |       chi2     df      p
---------------------+-----------------------------
  Heteroskedasticity |       3.09      5    0.6866
            Skewness |       3.27      2    0.1947
            Kurtosis |       1.57      1    0.2106
```

```
---------------------+-----------------------------
            Total |       7.93      8    0.4407
-------------------------------------------------

. ovtest, rhs

Ramsey RESET test using powers of the independent variables
      Ho:  model has no omitted variables
               F(6, 9) =      1.06
              Prob > F =      0.4497

. ovtest

Ramsey RESET test using powers of the fitted values of Dead_Missing
      Ho:  model has no omitted variables
              F(3, 12) =      1.56
              Prob > F =      0.2498


. estat hettest

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity
        Ho: Constant variance
        Variables: fitted values of Dead_Missing

        chi2(1)      =     0.49
        Prob > chi2  =   0.4822
```