Statistics/Data analysis

17.0
SE—Standard Edition

Statistics and Data Science

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Notes:
1. Unicode is supported; see help unicode_advice.
2. Maximum number of variables is set to 5,000 but can be increased; see help set_maxvar.

```
1 . import delimited "/home/alice/Documents/Geog351/geog351-finalproject/selectedvariables.cs
  > v", numericcols(7)
  (encoding automatically selected: ISO-8859-1)
  (9 vars, 6,181 obs)

2 . spearman, stats(rho obs p)
  (log_maori ignored because string variable)
```

Key
rho *Number of obs* *Sig. level*

	rnkimd~d	no_qual	maori	drive_~v	bus	log_bus	masters_	anyuni
rnkimdnoed	**1.0000** **4972**							
no_qual	**0.6346** **4972** **0.0000**	**1.0000** **4972**						
maori	**0.6938** **4972** **0.0000**	**0.7334** **4972** **0.0000**	**1.0000** **4972**					
drive_priv	**0.3457** **4972** **0.0000**	**0.5081** **4972** **0.0000**	**0.3577** **4972** **0.0000**	**1.0000** **4972**				
bus	**-0.0692** **4972** **0.0000**	**-0.5047** **4972** **0.0000**	**-0.4403** **4972** **0.0000**	**-0.2668** **4972** **0.0000**	**1.0000** **4972**			
log_bus	**-0.0692** **4972** **0.0000**	**-0.5047** **4972** **0.0000**	**-0.4403** **4972** **0.0000**	**-0.2668** **4972** **0.0000**	**1.0000** **4972** **0.0000**	**1.0000** **4972**		
masters_	**-0.5294** **4972** **0.0000**	**-0.9000** **4972** **0.0000**	**-0.7055** **4972** **0.0000**	**-0.5168** **4972** **0.0000**	**0.5594** **4972** **0.0000**	**0.5594** **4972** **0.0000**	**1.0000** **4972**	
anyuni	**-0.5697** **4972** **0.0000**	**-0.9298** **4972** **0.0000**	**-0.6901** **4972** **0.0000**	**-0.4953** **4972** **0.0000**	**0.5048** **4972** **0.0000**	**0.5048** **4972** **0.0000**	**0.9366** **4972** **0.0000**	**1.0000** **4972**

```
3 . drop log_maori

4 . generate log_maori = log(maori)
  (19 missing values generated)

5 . spearman rnkimdnoed no_qual drive_priv bus log_bus masters_ anyuni log_maori, stats(rho o
  > bs p) bonferroni
```

Key
rho *Number of obs* *Sig. level*

	rnkimd~d	no_qual	drive_~v	bus	log_bus	masters_	anyuni	log_ma~i
rnkimdnoed	**1.0000** **4971**							
no_qual	**0.6346** **4971** **0.0000**	**1.0000** **4971**						
drive_priv	**0.3458** **4971** **0.0000**	**0.5082** **4971** **0.0000**	**1.0000** **4971**					
bus	**-0.0692** **4971** **0.0000**	**-0.5048** **4971** **0.0000**	**-0.2663** **4971** **0.0000**	**1.0000** **4971**				
log_bus	**-0.0692** **4971** **0.0000**	**-0.5048** **4971** **0.0000**	**-0.2663** **4971** **0.0000**	**1.0000** **4971** **0.0000**	**1.0000** **4971**			
masters_	**-0.5295** **4971** **0.0000**	**-0.9000** **4971** **0.0000**	**-0.5166** **4971** **0.0000**	**0.5592** **4971** **0.0000**	**0.5592** **4971** **0.0000**	**1.0000** **4971**		
anyuni	**-0.5697** **4971** **0.0000**	**-0.9299** **4971** **0.0000**	**-0.4958** **4971** **0.0000**	**0.5053** **4971** **0.0000**	**0.5053** **4971** **0.0000**	**0.9370** **4971** **0.0000**	**1.0000** **4971**	
log_maori	**0.6940** **4971** **0.0000**	**0.7336** **4971** **0.0000**	**0.3574** **4971** **0.0000**	**-0.4400** **4971** **0.0000**	**-0.4400** **4971** **0.0000**	**-0.7055** **4971** **0.0000**	**-0.6907** **4971** **0.0000**	**1.0000** **4971**

```
6 . spearman rnkimdnoed no_qual drive_priv bus log_bus masters_ anyuni log_maori, stats(rho o
  > bs p) sidak
```

Key
rho *Number of obs* *Sig. level*

	rnkimd~d	no_qual	drive_~v	bus	log_bus	masters_	anyuni	log_ma~i
rnkimdnoed	**1.0000** **4971**							
no_qual	**0.6346** **4971** **0.0000**	**1.0000** **4971**						
drive_priv	**0.3458** **4971** **0.0000**	**0.5082** **4971** **0.0000**	**1.0000** **4971**					
bus	**-0.0692** **4971** **0.0000**	**-0.5048** **4971** **0.0000**	**-0.2663** **4971** **0.0000**	**1.0000** **4971**				
log_bus	**-0.0692** **4971** **0.0000**	**-0.5048** **4971** **0.0000**	**-0.2663** **4971** **0.0000**	**1.0000** **4971** **0.0000**	**1.0000** **4971**			
masters_	**-0.5295** **4971** **0.0000**	**-0.9000** **4971** **0.0000**	**-0.5166** **4971** **0.0000**	**0.5592** **4971** **0.0000**	**0.5592** **4971** **0.0000**	**1.0000** **4971**		
anyuni	**-0.5697** **4971** **0.0000**	**-0.9299** **4971** **0.0000**	**-0.4958** **4971** **0.0000**	**0.5053** **4971** **0.0000**	**0.5053** **4971** **0.0000**	**0.9370** **4971** **0.0000**	**1.0000** **4971**	
log_maori	**0.6940** **4971** **0.0000**	**0.7336** **4971** **0.0000**	**0.3574** **4971** **0.0000**	**-0.4400** **4971** **0.0000**	**-0.4400** **4971** **0.0000**	**-0.7055** **4971** **0.0000**	**-0.6907** **4971** **0.0000**	**1.0000** **4971**

7 . sktest rnkimdnoed no_qual maori drive_priv bus log_bus masters_ anyuni log_maori

Skewness and kurtosis tests for normality

				Joint test	
Variable	Obs	Pr(skewness)	Pr(kurtosis)	Adj chi2(2)	Prob>chi2
rnkimdnoed	**6,181**	**1.0000**	**0.0000**	**.**	**.**
no_qual	**6,181**	**0.0000**	**0.0000**	**158.12**	**0.0000**
maori	**6,181**	**0.0000**	**0.0000**	**.**	**.**
drive_priv	**6,181**	**0.0000**	**0.0000**	**.**	**.**
bus	**6,181**	**0.0000**	**0.0000**	**.**	**.**
log_bus	**4,972**	**0.0000**	**0.0000**	**397.16**	**0.0000**
masters_	**6,181**	**0.0000**	**0.0000**	**1026.74**	**0.0000**
anyuni	**6,181**	**0.0000**	**0.1245**	**89.87**	**0.0000**
log_maori	**6,162**	**0.0000**	**0.0007**	**61.14**	**0.0000**

8 . drop log_bus

9 . generate log_bus = log(bus)
(1,209 missing values generated)

10. generate log_bus = log(bus)
variable log_bus already defined
r(110);

11. sktest rnkimdnoed no_qual maori drive_priv bus log_bus masters_ anyuni log_maori

Skewness and kurtosis tests for normality

Variable	Obs	Pr(skewness)	Pr(kurtosis)	Joint test Adj chi2(2)	Joint test Prob>chi2
rnkimdnoed	6,181	1.0000	0.0000	.	.
no_qual	6,181	0.0000	0.0000	158.12	0.0000
maori	6,181	0.0000	0.0000	.	.
drive_priv	6,181	0.0000	0.0000	.	.
bus	6,181	0.0000	0.0000	.	.
log_bus	4,972	0.0000	0.0000	397.16	0.0000
masters_	6,181	0.0000	0.0000	1026.74	0.0000
anyuni	6,181	0.0000	0.1245	89.87	0.0000
log_maori	6,162	0.0000	0.0007	61.14	0.0000

12. qqplot masters_ anyuni

13. qqplot anyuni no_qual

14. swilk rnkimdnoed no_qual drive_priv masters_ anyuni log_maori log_bus

Shapiro–Wilk W test for normal data

Variable	Obs	W	V	z	Prob>z
rnkimdnoed	6,181	0.95491	147.452	13.187	0.00000
no_qual	6,181	0.99109	29.143	8.905	0.00000
drive_priv	6,181	0.86157	452.701	16.149	0.00000
masters_	6,181	0.88744	368.094	15.603	0.00000
anyuni	6,181	0.98344	54.157	10.542	0.00000
log_maori	6,162	0.99379	20.240	7.942	0.00000
log_bus	4,972	0.97768	60.166	10.748	0.00000

Note: The normal approximation to the sampling distribution of W' is valid for 4<=n<=2000.

15. import delimited "/home/alice/Documents/Geog351/geog351-finalproject/selectedvariables.cs
> v", clear
(encoding automatically selected: ISO-8859-1)
(8 vars, 6,181 obs)

16. swilk rnkimdnoed no_qual maori drive_priv bus masters_ anyuni bike

Shapiro–Wilk W test for normal data

Variable	Obs	W	V	z	Prob>z
rnkimdnoed	6,181	0.95491	147.452	13.187	0.00000
no_qual	6,181	0.99109	29.143	8.905	0.00000
maori	6,181	0.80764	629.068	17.018	0.00000
drive_priv	6,181	0.86157	452.701	16.149	0.00000
bus	6,181	0.78243	711.522	17.343	0.00000
masters_	6,181	0.88744	368.094	15.603	0.00000
anyuni	6,181	0.98344	54.157	10.542	0.00000
bike	6,181	0.81990	588.975	16.844	0.00000

Note: The normal approximation to the sampling distribution of W' is valid for 4<=n<=2000.

```
17. generate log_bus = log(bus)
  (1,209 missing values generated)

18. generate log_maori = log(maori)
  (19 missing values generated)

19. generate log_bike = log(bike)
  (517 missing values generated)

20. regress rnkimdnoed no_qual drive_priv masters_ anyuni log_bus log_maori log_bike, beta
```

Source	SS	df	MS		
Model	9.2603e+09	7	1.3229e+09	Number of obs	4,669
Residual	5.7977e+09	4,661	1243868.57	F(7, 4661)	1063.54
				Prob > F	0.0000
				R-squared	0.6150
				Adj R-squared	0.6144
Total	1.5058e+10	4,668	3225792.66	Root MSE	1115.3

rnkimdnoed	Coefficient	Std. err.	t	P>|t|	Beta
no_qual	90.89685	5.399902	16.83	0.000	.3897066
drive_priv	-.7852653	1.985817	-0.40	0.693	-.004552
masters_	6.954041	13.18475	0.53	0.598	.0133952
anyuni	-11.35879	5.277607	-2.15	0.031	-.0646677
log_bus	542.469	15.5362	34.92	0.000	.3888412
log_maori	1569.279	37.54259	41.80	0.000	.5480587
log_bike	-.2351495	17.67502	-0.01	0.989	-.0001303
_cons	-2629.302	279.0394	-9.42	0.000	.

```
21. spearman rnkimdnoed no_qual drive_priv bus log_bus masters_ anyuni log_maori log_bike, st
  > ats(rho obs p) sidak
```

Key
rho *Number of obs* *Sig. level*

	rnkimd~d	no_qual	drive_~v	bus	log_bus	masters_	anyuni	log_ma~i
rnkimdnoed	1.0000 4669							
no_qual	0.6274 4669 0.0000	1.0000 4669						
drive_priv	0.3521 4669 0.0000	0.5296 4669 0.0000	1.0000 4669					
bus	-0.0792 4669 0.0000	-0.5237 4669 0.0000	-0.2825 4669 0.0000	1.0000 4669				
log_bus	-0.0792 4669 0.0000	-0.5237 4669 0.0000	-0.2825 4669 0.0000	1.0000 4669 0.0000	1.0000 4669			
masters_	-0.5244 4669 0.0000	-0.9030 4669 0.0000	-0.5427 4669 0.0000	0.5777 4669 0.0000	0.5777 4669 0.0000	1.0000 4669		
anyuni	-0.5622 4669 0.0000	-0.9292 4669 0.0000	-0.5201 4669 0.0000	0.5273 4669 0.0000	0.5273 4669 0.0000	0.9397 4669 0.0000	1.0000 4669	

log_maori	**0.6945**	**0.7318**	**0.3791**	**-0.4514**	**-0.4514**	**-0.7063**	**-0.6864**	**1.0000**
	4669	**4669**	**4669**	**4669**	**4669**	**4669**	**4669**	**4669**
	0.0000	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	
log_bike	**-0.0472**	**-0.1346**	**-0.2656**	**0.0588**	**0.0588**	**0.2071**	**0.1778**	**-0.0383**
	4669	**4669**	**4669**	**4669**	**4669**	**4669**	**4669**	**4669**
	0.0447	**0.0000**	**0.0000**	**0.0021**	**0.0021**	**0.0000**	**0.0000**	**0.2762**

	log_bike
log_bike	**1.0000**
	4669

22. spearman rnkimdnoed no_qual drive_priv bus log_bus masters_ anyuni log_maori log_bike, stats(rho o

Key
rho
Number of obs
Sig. level

	rnkimd~d	no_qual	drive_~v	bus	log_bus	masters_	anyuni	log_ma~i	log_bike
rnkimdnoed	**1.0000**								
	4669								
no_qual	**0.6274**	**1.0000**							
	4669	**4669**							
	0.0000								
drive_priv	**0.3521**	**0.5296**	**1.0000**						
	4669	**4669**	**4669**						
	0.0000	**0.0000**							
bus	**-0.0792**	**-0.5237**	**-0.2825**	**1.0000**					
	4669	**4669**	**4669**	**4669**					
	0.0000	**0.0000**	**0.0000**						
log_bus	**-0.0792**	**-0.5237**	**-0.2825**	**1.0000**	**1.0000**				
	4669	**4669**	**4669**	**4669**	**4669**				
	0.0000	**0.0000**	**0.0000**	**0.0000**					
masters_	**-0.5244**	**-0.9030**	**-0.5427**	**0.5777**	**0.5777**	**1.0000**			
	4669	**4669**	**4669**	**4669**	**4669**	**4669**			
	0.0000	**0.0000**	**0.0000**	**0.0000**	**0.0000**				
anyuni	**-0.5622**	**-0.9292**	**-0.5201**	**0.5273**	**0.5273**	**0.9397**	**1.0000**		
	4669	**4669**	**4669**	**4669**	**4669**	**4669**	**4669**		
	0.0000	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**			
log_maori	**0.6945**	**0.7318**	**0.3791**	**-0.4514**	**-0.4514**	**-0.7063**	**-0.6864**	**1.0000**	
	4669	**4669**	**4669**	**4669**	**4669**	**4669**	**4669**	**4669**	
	0.0000	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		
log_bike	**-0.0472**	**-0.1346**	**-0.2656**	**0.0588**	**0.0588**	**0.2071**	**0.1778**	**-0.0383**	**1.0000**
	4669	**4669**	**4669**	**4669**	**4669**	**4669**	**4669**	**4669**	**4669**
	0.0447	**0.0000**	**0.0000**	**0.0021**	**0.0021**	**0.0000**	**0.0000**	**0.2762**	

23. translate @Results /home/alice/Documents/Geog351/geog351-finalproject/final_paper_test.pdf, transl
> replace
file **/home/alice/Documents/Geog351/geog351-finalproject/final_paper_test.pdf** saved as PDF format

24. spearman rnkimdnoed no_qual drive_priv bus log_bus masters_ anyuni log_maori log_bike, stats(rho o

Key
rho *Number of obs* *Sig. level*

	rnkimd~d	no_qual	drive_~v	bus	log_bus	masters_	anyuni	log_ma~i	log_bike
rnkimdnoed	**1.0000** **4669**								
no_qual	**0.6274** **4669** **0.0000**	**1.0000** **4669**							
drive_priv	**0.3521** **4669** **0.0000**	**0.5296** **4669** **0.0000**	**1.0000** **4669**						
bus	**-0.0792** **4669** **0.0000**	**-0.5237** **4669** **0.0000**	**-0.2825** **4669** **0.0000**	**1.0000** **4669**					
log_bus	**-0.0792** **4669** **0.0000**	**-0.5237** **4669** **0.0000**	**-0.2825** **4669** **0.0000**	**1.0000** **4669** **0.0000**	**1.0000** **4669**				
masters_	**-0.5244** **4669** **0.0000**	**-0.9030** **4669** **0.0000**	**-0.5427** **4669** **0.0000**	**0.5777** **4669** **0.0000**	**0.5777** **4669** **0.0000**	**1.0000** **4669**			
anyuni	**-0.5622** **4669** **0.0000**	**-0.9292** **4669** **0.0000**	**-0.5201** **4669** **0.0000**	**0.5273** **4669** **0.0000**	**0.5273** **4669** **0.0000**	**0.9397** **4669** **0.0000**	**1.0000** **4669**		
log_maori	**0.6945** **4669** **0.0000**	**0.7318** **4669** **0.0000**	**0.3791** **4669** **0.0000**	**-0.4514** **4669** **0.0000**	**-0.4514** **4669** **0.0000**	**-0.7063** **4669** **0.0000**	**-0.6864** **4669** **0.0000**	**1.0000** **4669**	
log_bike	**-0.0472** **4669** **0.0457**	**-0.1346** **4669** **0.0000**	**-0.2656** **4669** **0.0000**	**0.0588** **4669** **0.0021**	**0.0588** **4669** **0.0021**	**0.2071** **4669** **0.0000**	**0.1778** **4669** **0.0000**	**-0.0383** **4669** **0.3218**	**1.0000** **4669**

25. print @Results,

26. translate @Results /home/alice/Documents/Geog351/geog351-finalproject/final_paper_test.pdf, transl
> replace
file **/home/alice/Documents/Geog351/geog351-finalproject/final_paper_test.pdf** saved as PDF format

27. spearman rnkimdnoed no_qual drive_priv bus log_bus masters_ anyuni log_maori log_bike, stats(rho o

Key
rho *Number of obs* *Sig. level*

	rnkimd~d	no_qual	drive_~v	bus	log_bus	masters_	anyuni	log_ma~i	log_bike
rnkimdnoed	**1.0000** **4669**								
no_qual	**0.6274** **4669** **0.0000**	**1.0000** **4669**							
drive_priv	**0.3521** **4669** **0.0000**	**0.5296** **4669** **0.0000**	**1.0000** **4669**						
bus	**-0.0792** **4669** **0.0000**	**-0.5237** **4669** **0.0000**	**-0.2825** **4669** **0.0000**	**1.0000** **4669**					
log_bus	**-0.0792** **4669** **0.0000**	**-0.5237** **4669** **0.0000**	**-0.2825** **4669** **0.0000**	**1.0000** **4669** **0.0000**	**1.0000** **4669**				
masters_	**-0.5244** **4669** **0.0000**	**-0.9030** **4669** **0.0000**	**-0.5427** **4669** **0.0000**	**0.5777** **4669** **0.0000**	**0.5777** **4669** **0.0000**	**1.0000** **4669**			
anyuni	**-0.5622** **4669** **0.0000**	**-0.9292** **4669** **0.0000**	**-0.5201** **4669** **0.0000**	**0.5273** **4669** **0.0000**	**0.5273** **4669** **0.0000**	**0.9397** **4669** **0.0000**	**1.0000** **4669**		
log_maori	**0.6945** **4669** **0.0000**	**0.7318** **4669** **0.0000**	**0.3791** **4669** **0.0000**	**-0.4514** **4669** **0.0000**	**-0.4514** **4669** **0.0000**	**-0.7063** **4669** **0.0000**	**-0.6864** **4669** **0.0000**	**1.0000** **4669**	
log_bike	**-0.0472** **4669** **0.0013**	**-0.1346** **4669** **0.0000**	**-0.2656** **4669** **0.0000**	**0.0588** **4669** **0.0001**	**0.0588** **4669** **0.0001**	**0.2071** **4669** **0.0000**	**0.1778** **4669** **0.0000**	**-0.0383** **4669** **0.0089**	**1.0000** **4669**

28. spearman rnkimdnoed no_qual drive_priv log_bus masters_ anyuni log_maori log_bike
> , stats(rho obs p) bonferroni

Key
rho *Number of obs* *Sig. level*

	rnkimd~d	no_qual	drive_~v	log_bus	masters_	anyuni	log_ma~i
rnkimdnoed	**1.0000** **4669**						
no_qual	**0.6274** **4669** **0.0000**	**1.0000** **4669**					
drive_priv	**0.3521** **4669** **0.0000**	**0.5296** **4669** **0.0000**	**1.0000** **4669**				
log_bus	**-0.0792** **4669** **0.0000**	**-0.5237** **4669** **0.0000**	**-0.2825** **4669** **0.0000**	**1.0000** **4669**			
masters_	**-0.5244** **4669** **0.0000**	**-0.9030** **4669** **0.0000**	**-0.5427** **4669** **0.0000**	**0.5777** **4669** **0.0000**	**1.0000** **4669**		

anyuni	**-0.5622**	**-0.9292**	**-0.5201**	**0.5273**	**0.9397**	**1.0000**	
	4669	**4669**	**4669**	**4669**	**4669**	**4669**	
	0.0000	**0.0000**	**0.0000**	**0.0000**	**0.0000**		
log_maori	**0.6945**	**0.7318**	**0.3791**	**-0.4514**	**-0.7063**	**-0.6864**	**1.0000**
	4669	**4669**	**4669**	**4669**	**4669**	**4669**	**4669**
	0.0000	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	
log_bike	**-0.0472**	**-0.1346**	**-0.2656**	**0.0588**	**0.2071**	**0.1778**	**-0.0383**
	4669	**4669**	**4669**	**4669**	**4669**	**4669**	**4669**
	0.0355	**0.0000**	**0.0000**	**0.0016**	**0.0000**	**0.0000**	**0.2503**

	log_bike
log_bike	**1.0000**
	4669

29. translate @Results /home/alice/Documents/Geog351/geog351-finalproject/Untitled.pd
> f, translator(Results2pdf)
file **/home/alice/Documents/Geog351/geog351-finalproject/Untitled.pdf** saved as PDF format

30. spearman rnkimdnoed no_qual drive_priv log_bus masters_ anyuni log_maori log_bike, stats(rho obs p
> bonferroni

Key
rho *Number of obs* *Sig. level*

	rnkimd~d	no_qual	drive_~v	log_bus	masters_	anyuni	log_ma~i	log_bike
rnkimdnoed	**1.0000**							
	4669							
no_qual	**0.6274**	**1.0000**						
	4669	**4669**						
	0.0000							
drive_priv	**0.3521**	**0.5296**	**1.0000**					
	4669	**4669**	**4669**					
	0.0000	**0.0000**						
log_bus	**-0.0792**	**-0.5237**	**-0.2825**	**1.0000**				
	4669	**4669**	**4669**	**4669**				
	0.0000	**0.0000**	**0.0000**					
masters_	**-0.5244**	**-0.9030**	**-0.5427**	**0.5777**	**1.0000**			
	4669	**4669**	**4669**	**4669**	**4669**			
	0.0000	**0.0000**	**0.0000**	**0.0000**				
anyuni	**-0.5622**	**-0.9292**	**-0.5201**	**0.5273**	**0.9397**	**1.0000**		
	4669	**4669**	**4669**	**4669**	**4669**	**4669**		
	0.0000	**0.0000**	**0.0000**	**0.0000**	**0.0000**			
log_maori	**0.6945**	**0.7318**	**0.3791**	**-0.4514**	**-0.7063**	**-0.6864**	**1.0000**	
	4669	**4669**	**4669**	**4669**	**4669**	**4669**	**4669**	
	0.0000	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		
log_bike	**-0.0472**	**-0.1346**	**-0.2656**	**0.0588**	**0.2071**	**0.1778**	**-0.0383**	**1.0000**
	4669	**4669**	**4669**	**4669**	**4669**	**4669**	**4669**	**4669**
	0.0355	**0.0000**	**0.0000**	**0.0016**	**0.0000**	**0.0000**	**0.2503**	

```
31. spearman rnkimdnoed no_qual drive_priv log_bus masters_ anyuni log_maori log_bike, stats(rho obs p
  > bonferroni
```

Key
rho *Number of obs* *Sig. level*

	rnkimd~d	no_qual	drive_~v	log_bus	masters_	anyuni	log_ma~i	log_bike
rnkimdnoed	**1.0000**							
	4669							
no_qual	**0.6274**	**1.0000**						
	4669	**4669**						
	0.0000							
drive_priv	**0.3521**	**0.5296**	**1.0000**					
	4669	**4669**	**4669**					
	0.0000	**0.0000**						
log_bus	**-0.0792**	**-0.5237**	**-0.2825**	**1.0000**				
	4669	**4669**	**4669**	**4669**				
	0.0000	**0.0000**	**0.0000**					
masters_	**-0.5244**	**-0.9030**	**-0.5427**	**0.5777**	**1.0000**			
	4669	**4669**	**4669**	**4669**	**4669**			
	0.0000	**0.0000**	**0.0000**	**0.0000**				
anyuni	**-0.5622**	**-0.9292**	**-0.5201**	**0.5273**	**0.9397**	**1.0000**		
	4669	**4669**	**4669**	**4669**	**4669**	**4669**		
	0.0000	**0.0000**	**0.0000**	**0.0000**	**0.0000**			
log_maori	**0.6945**	**0.7318**	**0.3791**	**-0.4514**	**-0.7063**	**-0.6864**	**1.0000**	
	4669	**4669**	**4669**	**4669**	**4669**	**4669**	**4669**	
	0.0000	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		
log_bike	**-0.0472**	**-0.1346**	**-0.2656**	**0.0588**	**0.2071**	**0.1778**	**-0.0383**	**1.0000**
	4669	**4669**	**4669**	**4669**	**4669**	**4669**	**4669**	**4669**
	0.0355	**0.0000**	**0.0000**	**0.0016**	**0.0000**	**0.0000**	**0.2503**	

```
32. translate @Results /home/alice/Documents/Geog351/geog351-finalproject/Untitled.pdf, translator(Res
  > ts2pdf)
  file /home/alice/Documents/Geog351/geog351-finalproject/Untitled.pdf saved as PDF format

33. regress rnkimdnoed no_qual drive_priv log_bus log_maori log_bike, beta
```

Source	SS	df	MS		
				Number of obs	= **4,669**
				F(5, 4663)	= **1486.42**
Model	**9.2527e+09**	**5**	**1.8505e+09**	Prob > F	= **0.0000**
Residual	**5.8053e+09**	**4,663**	**1244965.82**	R-squared	= **0.6145**
				Adj R-squared	= **0.6141**
Total	**1.5058e+10**	**4,668**	**3225792.66**	Root MSE	= **1115.8**

rnkimdnoed	Coefficient	Std. err.	t	P>|t|	Beta
no_qual	**101.0971**	**3.433037**	**29.45**	**0.000**	**.4334385**
drive_priv	**-.4609678**	**1.89902**	**-0.24**	**0.808**	**-.0026722**
log_bus	**537.9777**	**14.94178**	**36.00**	**0.000**	**.3856218**
log_maori	**1571.178**	**37.15158**	**42.29**	**0.000**	**.5487221**
log_bike	**-6.764702**	**17.0883**	**-0.40**	**0.692**	**-.0037483**
_cons	**-3240.594**	**128.6355**	**-25.19**	**0.000**	**.**

34. regress rnkimdnoed no_qual drive_priv log_bus log_maori, beta

Source	SS	df	MS		
Model	**9.9624e+09**	**4**	**2.4906e+09**	Number of obs	= **4,971**
Residual	**6.2134e+09**	**4,966**	**1251186.23**	F(4, 4966)	= **1990.58**
Total	**1.6176e+10**	**4,970**	**3254680.04**	Prob > F	= **0.0000**
				R-squared	= **0.6159**
				Adj R-squared	= **0.6156**
				Root MSE	= **1118.6**

rnkimdnoed	Coefficient	Std. err.	t	P>|t|	Beta
no_qual	**100.8717**	**3.305594**	**30.52**	**0.000**	**.4301544**
drive_priv	**1.849148**	**1.773157**	**1.04**	**0.297**	**.0107046**
log_bus	**532.5608**	**14.34784**	**37.12**	**0.000**	**.3797961**
log_maori	**1540.286**	**35.76969**	**43.06**	**0.000**	**.5389933**
_cons	**-3290.642**	**121.6766**	**-27.04**	**0.000**	**.**

35. regress rnkimdnoed no_qual log_bus log_maori log_bike, beta

Source	SS	df	MS		
Model	**9.2527e+09**	**4**	**2.3132e+09**	Number of obs	= **4,669**
Residual	**5.8053e+09**	**4,664**	**1244714.62**	F(4, 4664)	= **1858.39**
Total	**1.5058e+10**	**4,668**	**3225792.66**	Prob > F	= **0.0000**
				R-squared	= **0.6145**
				Adj R-squared	= **0.6141**
				Root MSE	= **1115.7**

rnkimdnoed	Coefficient	Std. err.	t	P>|t|	Beta
no_qual	**100.7872**	**3.186559**	**31.63**	**0.000**	**.43211**
log_bus	**538.2658**	**14.89308**	**36.14**	**0.000**	**.3858283**
log_maori	**1571.613**	**37.10458**	**42.36**	**0.000**	**.548874**
log_bike	**-5.80955**	**16.62742**	**-0.35**	**0.727**	**-.003219**
_cons	**-3264.158**	**84.39371**	**-38.68**	**0.000**	**.**

36. regress rnkimdnoed no_qual log_bus log_maori, beta

Source	SS	df	MS		
Model	**9.9610e+09**	**3**	**3.3203e+09**	Number of obs	= **4,971**
Residual	**6.2148e+09**	**4,967**	**1251208.29**	F(3, 4967)	= **2653.70**
Total	**1.6176e+10**	**4,970**	**3254680.04**	Prob > F	= **0.0000**
				R-squared	= **0.6158**
				Adj R-squared	= **0.6156**
				Root MSE	= **1118.6**

rnkimdnoed	Coefficient	Std. err.	t	P>|t|	Beta
no_qual	**102.218**	**3.043124**	**33.59**	**0.000**	**.4358954**
log_bus	**531.3453**	**14.30055**	**37.16**	**0.000**	**.3789292**
log_maori	**1537.284**	**35.654**	**43.12**	**0.000**	**.5379429**
_cons	**-3195.983**	**81.03209**	**-39.44**	**0.000**	**.**

37. translate @Results /home/alice/Documents/Geog351/geog351-finalproject/Untitled.pdf, translator(Res
> ts2pdf)
file **/home/alice/Documents/Geog351/geog351-finalproject/Untitled.pdf** saved as PDF format

```
38. ?vif
  ? is not a valid command name
  r(199);

39. vif
```

Variable	VIF	1/VIF
no_qual	**2.18**	**0.459320**
log_maori	**2.01**	**0.496917**
log_bus	**1.34**	**0.743699**
Mean VIF	**1.84**	

```
40. estat hettest

  Breusch–Pagan/Cook–Weisberg test for heteroskedasticity
  Assumption: Normal error terms
  Variable: Fitted values of rnkimdnoed

  H0: Constant variance

      chi2(1) =  13.39
  Prob > chi2 = 0.0003

41. estat summarize

    Estimation sample regress                 Number of obs =      4,971
```

Variable	Mean	Std. dev.	Min	Max
rnkimdnoed	**3112.168**	**1804.073**	**1**	**6180**
no_qual	**17.30376**	**7.693237**	**0**	**39.8**
log_bus	**.9006347**	**1.286576**	**-2.302585**	**3.484312**
log_maori	**2.641573**	**.6313007**	**.4700036**	**4.54542**

```
42. rvfplot

43. rvpplot rnkimdnoed
  rnkimdnoed is not in the model
  r(398);

44. rvpplot rnkimdnoed
  rnkimdnoed is not in the model
  r(398);

45. regress rnkimdnoed no_qual log_bus log_maori, beta
```

Source	SS	df	MS		
Model	**9.9610e+09**	**3**	**3.3203e+09**	Number of obs	= **4,971**
Residual	**6.2148e+09**	**4,967**	**1251208.29**	F(3, 4967)	= **2653.70**
Total	**1.6176e+10**	**4,970**	**3254680.04**	Prob > F	= **0.0000**
				R-squared	= **0.6158**
				Adj R-squared	= **0.6156**
				Root MSE	= **1118.6**

rnkimdnoed	Coefficient	Std. err.	t	P>|t|	Beta
no_qual	**102.218**	**3.043124**	**33.59**	**0.000**	**.4358954**
log_bus	**531.3453**	**14.30055**	**37.16**	**0.000**	**.3789292**
log_maori	**1537.284**	**35.654**	**43.12**	**0.000**	**.5379429**
_cons	**-3195.983**	**81.03209**	**-39.44**	**0.000**	**.**

```
46. rvpplot rnkimdnoed
  rnkimdnoed is not in the model
  r(398);

47. rvpplot log_maori

48. rvfplot

49. graph export "/home/alice/Documents/Geog351/geog351-finalproject/rvfplot.jpg", as(jpg) name("Graph
  >  quality(90)
  file /home/alice/Documents/Geog351/geog351-finalproject/rvfplot.jpg written in JPEG format

50. vif

    Variable |       VIF       1/VIF
-------------+----------------------
      no_qual |      2.18    0.459320
    log_maori |      2.01    0.496917
      log_bus |      1.34    0.743699
-------------+----------------------
    Mean VIF |      1.84

51. estat hettest

  Breusch–Pagan/Cook–Weisberg test for heteroskedasticity
  Assumption: Normal error terms
  Variable: Fitted values of rnkimdnoed

  H0: Constant variance

      chi2(1) =  13.39
  Prob > chi2 = 0.0003

52. translate @Results /home/alice/Documents/Geog351/geog351-finalproject/Untitled.pdf, translator(Res
  > ts2pdf) replace
```