

PS3

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3/25/2017

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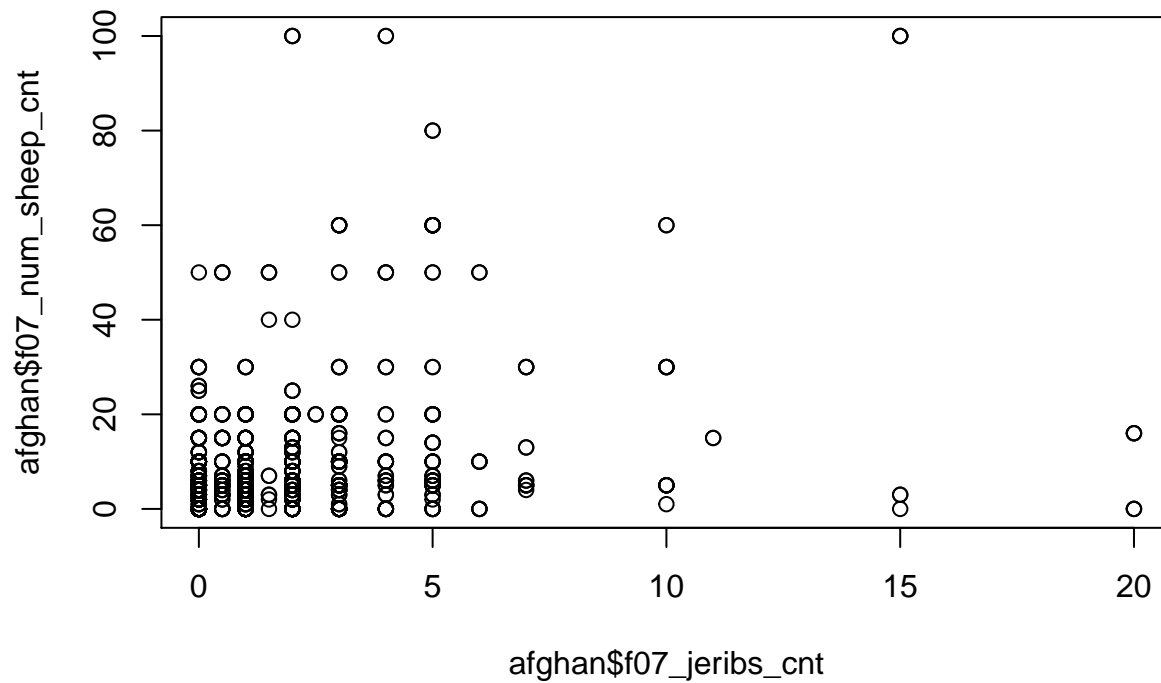
```
library(haven)
library(sandwich)
library(stargazer)
library(ggplot2)
library(car)
library(knitr)
afghan <- read_dta("~/Documents/Stats2/pivotproject/afghandata.dta")

kable(round(cor(afghan[, c("f07_formal_school", "f07_nearest_scl", "f07_heads_child_cnt",
  "f07_girl_cnt", "f07_age_cnt", "f07_age_head_cnt", "f07_yrs_ed_head_cnt",
  "f07_jeribs_cnt", "f07_num_sheep_cnt", "f07_duration_village_cnt", "f07_farsi_cnt",
  "f07_tajik_cnt", "f07_farmer_cnt", "f07_num_ppl_hh_cnt")]), digits = 2))
```

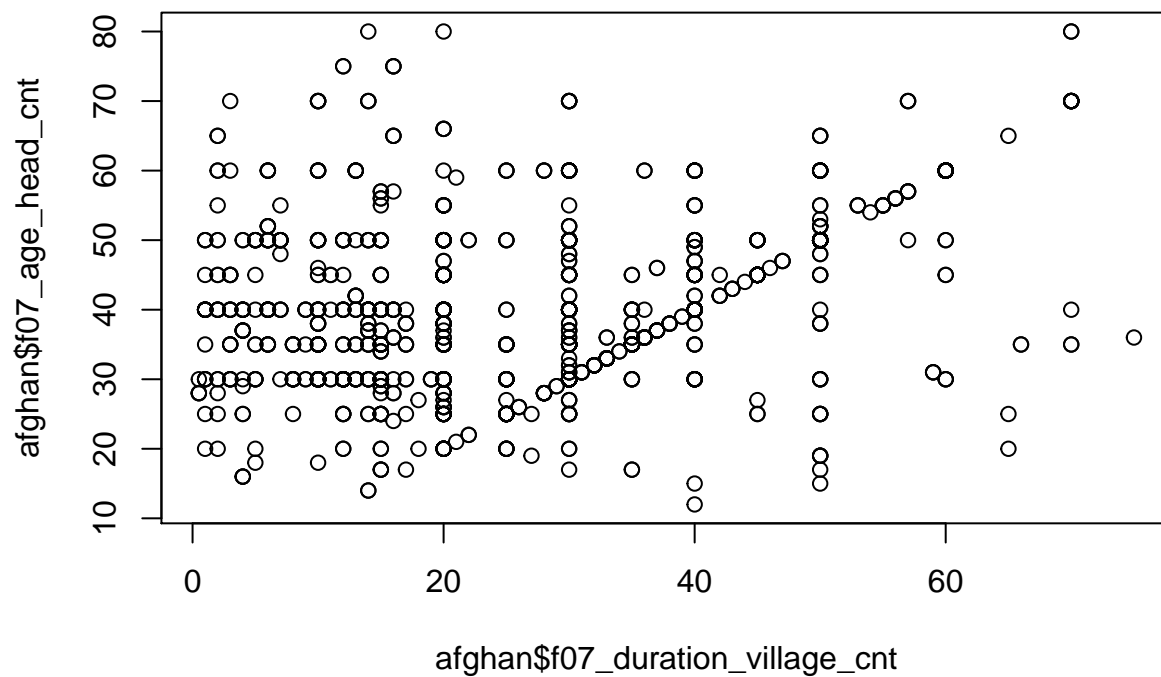
	f07_formal_school	f07_nearest_scl	f07_heads_child_cnt	f07_girl_cnt	f07_age_cnt
f07_formal_school	1.00	-0.12	0.00	-0.10	0.16
f07_nearest_scl	-0.12	1.00	0.04	-0.02	0.01
f07_heads_child_cnt	0.00	0.04	1.00	0.02	0.00
f07_girl_cnt	-0.10	-0.02	0.02	1.00	0.01
f07_age_cnt	0.16	0.01	0.00	0.01	1.00
f07_age_head_cnt	-0.03	0.03	0.12	-0.01	0.07
f07_yrs_ed_head_cnt	0.05	-0.01	0.01	0.00	0.01
f07_jeribs_cnt	0.00	0.01	0.00	0.03	0.00
f07_num_sheep_cnt	0.13	-0.03	-0.05	0.03	0.02
f07_duration_village_cnt	0.02	-0.06	-0.04	0.01	0.02
f07_farsi_cnt	-0.02	0.02	0.02	0.03	-0.01
f07_tajik_cnt	0.03	0.06	-0.02	0.00	-0.01
f07_farmer_cnt	-0.07	0.08	-0.01	-0.01	-0.03
f07_num_ppl_hh_cnt	0.06	-0.08	-0.20	0.05	0.01

none are more than 0.35. above magnitude 0.25 are: yrs head of household education and farmer -0.28, farsi and tajik -0.27, duration in village and age of household head 0.3, sheep and jerobs 0.32.

```
plot(afghan$f07_jeribs_cnt, afghan$f07_num_sheep_cnt)
```



```
plot(afghan$f07_duration_village_cnt, afghan$f07_age_head_cnt)
```



f07_nearest_scl, f07_girl_cnt, f07_age_cnt, f07_age_head_cnt, f07_num_sheep_cnt all significant

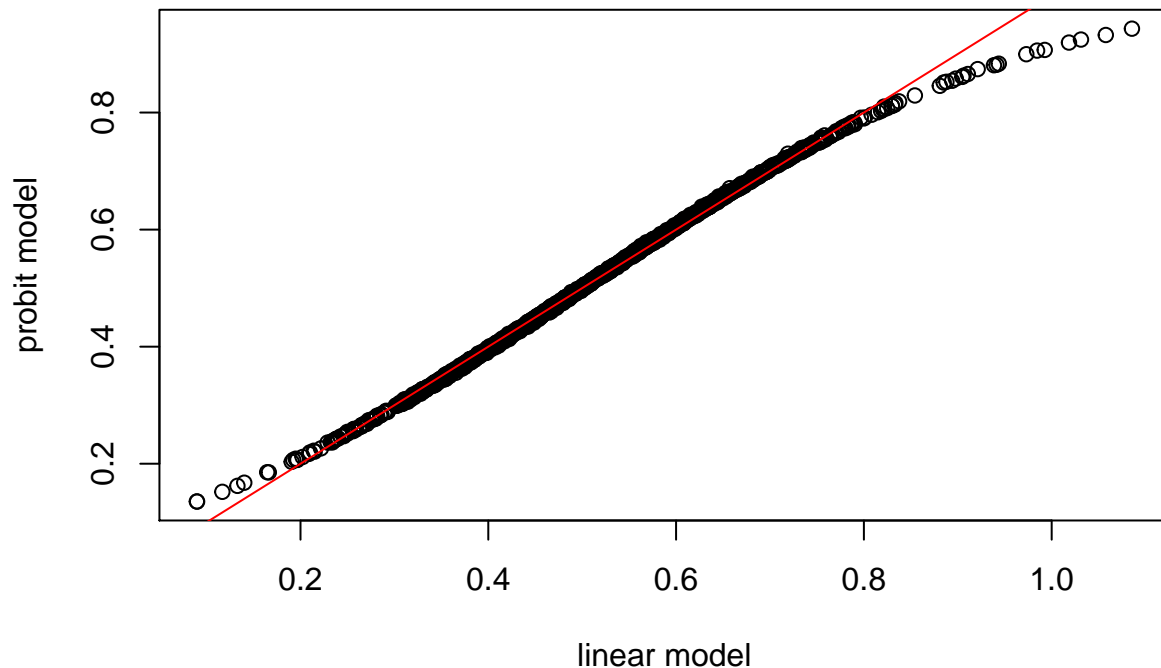
```
plot(predict(r2, type = "response"), predict(p2, type = "response"), xlab = "linear model",
      ylab = "probit model")
abline(a = 0, b = 1, col = "red")
```

Table 2:

	<i>Dependent variable:</i>			
	f07_formal_school			
	<i>OLS</i>		<i>probit</i>	
	(1)	(2)	(3)	(4)
Constant	0.671*** (0.036)	0.239** (0.097)	0.440*** (0.092)	-0.685*** (0.258)
f07_nearest_scl	-0.053*** (0.011)	-0.051*** (0.011)	-0.136*** (0.029)	-0.139*** (0.029)
f07_girl_cnt		-0.114*** (0.025)		-0.303*** (0.065)
f07_age_cnt		0.051*** (0.007)		0.134*** (0.020)
f07_age_head_cnt		-0.003** (0.001)		-0.008** (0.003)
f07_num_sheep_cnt		0.005*** (0.001)		0.015*** (0.003)
f07_jeribs_cnt		-0.009 (0.006)		-0.024 (0.016)
f07_yrs_ed_head_cnt		0.003 (0.003)		0.009 (0.009)
f07_heads_child_cnt		0.062 (0.046)		0.170 (0.124)
f07_duration_village_cnt		0.001 (0.001)		0.002 (0.002)
f07_num_ppl_hh_cnt		0.006 (0.004)		0.017 (0.011)
f07_tajik_cnt		0.042 (0.031)		0.112 (0.082)
f07_farsi_cnt		-0.014 (0.032)		-0.034 (0.084)
Observations	1,560	1,560	1,560	1,560
R ²	0.014	0.077		
Adjusted R ²	0.014	0.070		

Note:

*p<0.1; **p<0.05; ***p<0.01



we can see the difference in the tails

```
linearHypothesis(p2, c("f07_tajik_cnt = 0", "f07_farsi_cnt = 0"), test = "F")
```

```
## Linear hypothesis test
##
## Hypothesis:
## f07_tajik_cnt = 0
## f07_farsi_cnt = 0
##
## Model 1: restricted model
## Model 2: f07_formal_school ~ f07_nearest_scl + f07_girl_cnt + f07_age_cnt +
##          f07_age_head_cnt + f07_num_sheep_cnt + f07_jeribs_cnt + f07_yrs_ed_head_cnt +
##          f07_heads_child_cnt + f07_duration_village_cnt + f07_num_ppl_hh_cnt +
##          f07_tajik_cnt + f07_farsi_cnt
##
##   Res.Df Df       F Pr(>F)
## 1    1549
## 2    1547  2 1.2658 0.2823
```

```
linearHypothesis(p2, c("f07_num_sheep_cnt = 0", "f07_jeribs_cnt = 0"), test = "F")
```

```
## Linear hypothesis test
##
## Hypothesis:
## f07_num_sheep_cnt = 0
## f07_jeribs_cnt = 0
##
## Model 1: restricted model
## Model 2: f07_formal_school ~ f07_nearest_scl + f07_girl_cnt + f07_age_cnt +
##          f07_age_head_cnt + f07_num_sheep_cnt + f07_jeribs_cnt + f07_yrs_ed_head_cnt +
##          f07_heads_child_cnt + f07_duration_village_cnt + f07_num_ppl_hh_cnt +
##          f07_tajik_cnt + f07_farsi_cnt
##
```

```
##   Res.Df Df      F    Pr(>F)
## 1    1549
## 2    1547  2 10.771 2.262e-05 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

jeribs and sheep jointly significant farsi and tajik not.
