

Hi all,

I'm from Brazil.

I fit a Tobit model to **Fluid milk consumption (dependent variable)** data using survreg.

1) The **square root** of the dependent variable was used to correct for heteroscedasticity since it provides the best fit.

2) The output before transformation of numeric variables in scores (by "Make.Z") was:

```
survreg(formula=Surv(QUALEITERPER, QUALEITEPER>0,type="left") ~  
SALARPER + IDADE + IDADE2 + NUMORAD + CIGAFAI + LOCAL, data = leite,  
dist = "gaussian")
```

	Value	Std. Error	z	p
(intercept)	14.20	2.50	5.58	1.34e-08
SALARPER	2.98	0.87	3.41	6.45e-04
IDADE	-0.50	0.06	-7.91	2.48e-15
IDADE2	0.006	0.00	7.37	1.76e-13
NUMORAD	-0.61	0.25	-2.39	1.69e-02
CIGAFAI-10	2.20	2.04	1.11	2.68e-01
CIGAFAI-NF	4.66	1.18	3.92	8.80e-05
LOCALh	4.13	1.82	2.27	2.35e-02
LOCALi	1.78	1.62	1.09	2.74e-01
LOCALm	3.66	1.93	1.89	5.82e-02
LOCALt	4.66	1.85	2.51	1.20e-02
Log(scale)	2.26	0.03	73.35	0.00e+00

Scale=9.65

Gaussian distribution

Loglik(model)=-2270.8 Loglik (intercept only)=-2335

Chisq=128.5 on 10 degrees of freedom, p=0

Number of Newton-Raphson Iterations: 4

N=704 (19 observations deleted due to missingness)

2 – The output after transformation of numeric variables in scores by “Make.Z(X)” was:

```
survreg(formula=Surv(QUALEITERPERz, QUALEITEPERz>-1.4977406,type="left") ~ SALARPERz + IDADEz + IDADE2z + NUMORADz + CIGAFAI + LOCAL, data = leite, dist = "gaussian")
```

	Value	Std. Error	z	p
(intercept)	-0.80	0.20	-3.93	8.38e-05
SALARPERz	0.15	0.04	3.41	6.45e-04
IDADEz	-1.13	0.14	-7.91	2.48e-15
IDADE2z	1.03	0.14	7.37	1.76e-13
NUMORADz	-0.11	0.04	-2.39	1.69e-02
CIGAFAI-10	0.24	0.22	1.11	2.68e-01
CIGAFAI-NF	0.51	0.13	3.92	8.80e-05
LOCALh	0.45	0.20	2.27	2.35e-02
LOCALi	0.19	0.17	1.09	2.74e-01
LOCALm	0.40	0.21	1.89	5.82e-02
LOCALt	0.51	0.20	2.51	1.20e-02
Log(scale)	0.06	0.03	1.95	5.16e-02

Scale=1.06

Gaussian distribution

Loglik(model)=-993.3 Loglik (intercept only)=-1057.6

Chisq=128.5 on 10 degrees of freedom, p=0

Number of Newton-Raphson Iterations: 4

N=704 (19 observations deleted due to missingness)

I am confused about the output, because:

- 1) I do not know how to interpret the "scale".
- 2) The scale/log(scale) interferes in the interpretation of coefficients or both are independents?
- 3) How I interpret the coefficients (after score z transformation)? Give me one example.
- 4) How I could interpret pseudo R2 if it modifies after score z transformation? Should I take it in consideration? Is there some alternative?

Thanks,

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