Econometrics I, quiz 7

Susan Thomas

September 4, 2008

---

1. This is a 15-minute quiz
2. At **NO** point in the exam can you discuss the questions/answers with any of your colleagues.
3. When a multiple choice is present, circle the number indicating your choice of the answer.
4. Good luck. :-)

- **Q1**: The table below shows the number of newborn girls and boys in the UK for 2004.

	boys	girls
2004	367586	348410

1. Construct a 99% confidence interval for estimator $\hat{\theta}_{2004}$.(**2pts**)

2. Find the 1% level LR test for the null hypothesis, $H_0 : \theta_{2004} = 0.5$. (**2pts**)

3. Do you accept or reject the null at 99% level of significance? (**1pts**)

$**$ Information you may require to answer the questions.

P($X > x$)	0.10	0.05	0.01	0.005
$x \sim N(0,1)$	1.650	1.960	2.580	2.807
$x \sim \chi^2(1)$	2.706	3.841	6.635	7.879

- **Q2**: Available is the following information for a dataset of weekly wages from the US:

N	3877
$\sum_{i=1}^{N}$ wages	745938.5
$\sum_{i=1}^{N}$ wages^2	242416457.1
$\sum_{i=1}^{N}$ log(wages)	19460.1
$\sum_{i=1}^{N}$ log(wages)^2	99875.5

1. Calculate the sample average ($\hat{\alpha}$), sample variance and sample standard deviation for wages. (**2 pts**)

2. What are the units for these? (**1 pt**)

3. Calculate the sample average ($\hat{\beta}$), sample variance and sample standard deviation for log(wages). (**2 pts**)

4. What are the units for these? (**1 pt**)

5. Compare the average of the wages ($\hat{\alpha}$) with the exponential of the average of log(wages) ($\exp(\hat{\beta})$).
   Are they different? What could explain why these values are so different? (**4 pts**)