TSE
Toulouse School of Economics
École d'économie de Toulouse

UNIVERSITÉ TOULOUSE 1 CAPITOLE

**Université Toulouse 1 Capitole**
**Ecole d'économie de Toulouse**

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**Session 1**

**Semestre 1**

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|---|
| Master 1 Econometrics, Statistics, Economie Droit & Economics |
| Epreuve : Applied Econometrics |
| Date de l'épreuve : 14 décembre 2016 |
| Durée de l'épreuve : 1h |

Liste des documents autorisés : none

Liste des matériels autorisés : none

Nombre de pages (y compris page de garde) : 19

***Instructions***

- *Duration: 1 hour.*
- *No document allowed*
- *You have to answer to questions related to* ***3 topics*** *of your choice.*
- *Answers have to be written on the last page of the exam. You will have to enclose this last page in the exam double sheet.*
- *There is a unique correct answer for each question.*
- *Grading for each question:*
  - *No answer: 0 point*
  - *Correct answer: 1 point*
  - ***!!!!! Wrong answer: -0.5 point !!!!!***
- *Total number of points = 18*

# Topic 1. DEV: Development Economics (Matteo Bobba)

1. Natural experiments are superior to randomized experiments because they are based on observational data
   A. True
   B. False

2. The instrumental variable proposed in Jayachandran (2006) is a good instrument because it is likely to be random
   A. True
   B. False

3. The empirical results presented in Banerjee and Duflo (2014) provide indirect evidence for the fact the firms are credit constrained because the authors don't have data on market borrowing
   A. True
   B. False

4. In the paper by Avitable, Bobba and Pariguana (2016) the authors fit a quadratic polynomial at both sides of the threshold in order to:
   A. Improve the efficiency of the resulting estimates
   B. Control for unobserved determinants of school choices
   C. Distinguish the jump in school choices at the threshold from a non linearity in the relationship between school choices and the poverty score
   D. Check that students and/or their families do not manipulate the poverty score

5. What is one reason behind the observed bias in the OLS estimate of crop yield on agricultural wages reported in Jayachandran (2006)?
   A. The fact that rainfall does not affect wages in non-agrarian areas
   B. Crop yields may be a poor proxy of productivity
   C. The fact that workers who have access to credit will supply less labor when agricultural productivity is low
   D. The dependent variable does not consider the agricultural wages of women

6. What is the key identification assumption in the empirical approach pursued by Banerjee and Duflo (2014)?
   A. There are no differential trends in firms' outcomes that are not due to the change in loan availability
   B. Firms only borrow from the bank for which the authors collected the data
   C. The change in credit access across firms is random
   D. The reform only affects small firms

## Topic 2. FE: Financial Econometrics (Jihyun Kim)

1. Consider a forward exchange rate regression

$$s_{t+1} - s_t = \alpha + \beta(f_t - s_t) + u_t,$$

where $s_t$ is the logarithm of the exchange rate and $f_t$ is the one-period-ahead forward exchange rate. Suppose that the null hypothesis of $\alpha = \beta = 0$ is not rejected for a given exchange rate market. Then the no arbitrage condition holds for the exchange rate market.

A. True

B. False

2. Consider a return process

$$r_t = \alpha + u_t, \quad \mathbb{E}[u_t] = 0, \quad \mathbb{E}[u_t^2] = \sigma^2.$$

The null hypothesis of no return predictability can be tested by the standard variance ratio test suggested by Lo and MacKinlay (1988).

A. True

B. False

3. Let $(r_t)_{t=1}^T$ be a return series of EU/US exchange rate. To examine the efficient market hypothesis, consider the following two regressions

$$r_{t+1} = \alpha + \beta_0 r_t + \beta_1 r_{t-1} + \cdots \beta_k r_{t-k} + u_{t+1}, \tag{1}$$
$$r_{t+1}^2 = \gamma + \delta_0 r_t^2 + \delta_1 r_{t-1}^2 + \cdots \delta_k r_{t-k}^2 + v_{t+1}, \tag{2}$$

and test the null hypothesises

$$H_0(r_t) : \beta_0 = \beta_1 = \cdots = \beta_k = 0 \quad \text{for (1)},$$
$$H_0(r_t^2) : \delta_0 = \delta_1 = \cdots = \delta_k = 0 \quad \text{for (2)}.$$

Suppose that $H_0(r_t)$ is not rejected, whereas $H_0(r_t^2)$ is rejected. Then the exchange rate market violates the efficient market hypothesis because the squared return $r_t^2$ can be predicted by its lagged values.

A. True

B. False

4. Suppose that a set of time series $(y_t, x_t, z_t)_{t=1}^T$ is given by

$$y_t = \alpha + \beta_t x_t + \gamma z_t + e_t, \quad \mathbb{E}[e_t] = 0, \quad \mathbb{E}[e_t^2] = \sigma^2 \tag{3}$$
$$\beta_t = \beta + v_t,$$

where $x_t$, $z_t$, $e_t$ and $v_t$ are independent each other. The model (3) has a time varying coefficient $\beta_t$. But I ignore the time varying $\beta_t$, and estimate the model by the ordinary least squres

$$y_t = \hat{b}_0 + \hat{b}_1 x_t + \hat{b}_2 z_t + \hat{\epsilon}_t.$$

Which statement is false?

A. $\hat{b}_0$ converges to $\alpha$.

B. $\hat{b}_1$ converges to $\beta$.

C. $\hat{b}_2$ converges to $\gamma$.

D. $s^2$, where $s^2 = \sum_{t=1}^{T} \hat{\epsilon}_t^2/(T-2)$, converges to $\sigma^2$.

5. The CAPM is estimated in equation for monthly returns to three United States stocks and gold for the period April 1990 to July 2004. Which statement is false? (Note that $p$-values are in parenthesis.)

| Stock | $\beta_0$ | $\beta_1$ | $\bar{R}^2$ | LM(1) | LM(2) | White |
|---|---|---|---|---|---|---|
| Gold | -0.003 (0.238) | -0.098 (0.066) | 0.014 | 1.452 (0.228) | 7.530 (0.023) | 2.579 (0.275) |
| GE | 0.016 (0.000) | 1.144 (0.000) | 0.440 | 5.458 (0.019) | 7.014 (0.030) | 5.336 (0.069) |
| MS | 0.012 (0.069) | 1.447 (0.000) | 0.333 | 3.250 (0.071) | 6.134 (0.047) | 0.197 (0.906) |

A. Gold has the highest proportion of risk that is diversifiable.

B. GE has heteroskedastic errors at 10% significance level.

C. For GE, the ratio of the idiosyncratic risk to the total risk is 0.440.

D. The CAPM for MS exhibits second order autocorrelation at 5% level.

6. Consider two regression models

$$\text{Model A: } y_t = \beta x_t + u_t, \quad \text{where } u_t = \rho u_{t-1} + \epsilon_t$$
$$\text{Model B: } y_t = \beta x_t + v_t, \quad \text{where } v_t = \sigma_t \epsilon_t \text{ with } \sigma_t^2 = 1 + \gamma x_t^2.$$

Assume that $\epsilon_t \sim iidN(0, \sigma^2)$ and $\mathbb{E}[\epsilon_t | x_t] = 0$ for both models, and $0 < \rho < 1$ and $\gamma > 0$. Which statement is false?

A. For Model A, we have $\mathbb{E}[u_t^2 | x_t] = \sigma^2/(1-\rho^2)$.

B. For Model A, $\rho$ can be consistently estimated by regressing $\hat{u}_t$ on $\hat{u}_{t-1}$.

C. For Model B, the OLS estimator $\hat{\beta}$ of $\beta$ is inconsistent.

D. For Model B, the White test will reject the null hypothesis.

# Topic 3. PROD: Production Econometrics and Cost Functions Estimation (Norbert Ladoux)

Table 1: Equation by equation OLS and iterative Zellner (IZEF) parameter estimates of Translog share equations (standard errors in parentheses)

| Parameter | OLS | IZEF | Parameter | OLS | IZEF | Parameter | OLS | IZEF |
|---|---|---|---|---|---|---|---|---|
| $a_K$ | 0.279 | 0.057 | $g_{LL}$ | 0.101 | 0.075 | $g_{EM}$ | −0.013 | −0.004 |
| | (0.035) | (0.001) | | (0.035) | (0.007) | | (0.008) | (0.009) |
| $g_{KK}$ | 0.045 | 0.030 | $g_{LE}$ | 0.041 | −0.004 | $g_{EY}$ | −0.031 | 0.000 |
| | (0.004) | (0.006) | | (0.034) | (0.002) | | (0.003) | |
| $g_{KL}$ | 0.031 | −0.000 | $g_{LM}$ | −0.123 | −0.071 | $a_M$ | 0.119 | 0.645 |
| | (0.011) | (0.004) | | (0.048) | (0.011) | | (0.127) | (0.003) |
| $g_{KE}$ | 0.000 | −0.010 | $g_{LY}$ | −0.028 | 0.000 | $g_{MK}$ | −0.062 | −0.019 |
| | (0.010) | (0.003) | | (0.021) | | | (0.013) | (0.010) |
| $g_{KM}$ | −0.015 | −0.019 | $a_E$ | 0.205 | 0.044 | $g_{ML}$ | −0.161 | −0.071 |
| | (0.015) | (0.010) | | (0.018) | (0.001) | | (0.039) | (0.011) |
| $g_{KY}$ | −0.043 | 0.000 | $g_{EK}$ | −0.004 | −0.010 | $g_{ME}$ | −0.053 | −0.004 |
| | (0.007) | | | (0.002) | (0.003) | | (0.038) | (0.009) |
| $a_L$ | 0.398 | 0.253 | $g_{EL}$ | 0.029 | −0.004 | $g_{MM}$ | 0.150 | 0.094 |
| | (0.114) | (0.002) | | (0.005) | (0.002) | | (0.054) | (0.023) |
| $g_{LK}$ | 0.021 | −0.000 | $g_{EE}$ | 0.011 | 0.019 | $g_{MY}$ | 0.102 | 0.000 |
| | (0.012) | (0.004) | | (0.005) | (0.005) | | (0.024) | |

1. In Table 1 above OLS estimates satisfy the additivity constraints.
   A. True
   B. False

2. A generalized Leontief form of the cost function does not impose any a priori restrictions on the elasticities of substitution when global concavity constraints are imposed.
   A. True
   B. False

3. You estimate the 4 input-output equations derived from a KLEM Generalized Leontief cost function. Using the results obtained you estimate the variance-covariance matrix of residuals. This matrix is singular.
   A. True
   B. False

4. IZEF estimates given in Table 1 above
   A. Allow to say that a necessary condition for the Translog form to be globally concave is satisfied.

B. Allow to say that a sufficient condition for the Translog form to be globally concave is satisfied.

C. Allow to say that a necessary and sufficient condition for the Translog form to be globally concave is satisfied.

D. Do not allow to conclude about global concavity of the Translog form.

5. For different firms having the same technology, you have data on capital ($K$), labor ($L$), 3 different energy forms ($E_1$, $E_2$, $E_3$), materials ($M$) and their respective prices ($p_K$, $p_L$, $p_{E_1}$, $p_{E_2}$, $p_{E_3}$, $p_M$). You are interested by the possibilities of substitution between the different energy forms. You consider 2 different models. The first one estimates a flexible form of the unit cost function $C_u\left(p_K, p_L, p_{E_1}, p_{E_2}, p_{E_3}, p_M\right)$ while the second one estimates a flexible form of the unit cost function $C_u\left(p_{E_1}, p_{E_2}, p_{E_3}\right)$.

A. The first model gives biased estimates of the elasticities of substitution.

B. The two models are equivalent because it is always true that substitutions between energy forms depend only on energy prices.

C. The second model always gives biased estimates of the elasticities of substitution.

D. The second model is not relevant when energy switching needs capital investment.

6. When global concavity is imposed to the Translog cost function estimated in Table 1, the results obtained are,

Table 2: Translog form estimation with concavity constraints imposed

| | Parameters | Standard error | t-Student |
|---|---|---|---|
| $\alpha_K$ | 0.0535 | 0.0009 | 60.921 |
| $\beta_{KK}$ | 0.0000 | 0.1039 | 0.000 |
| $\beta_{KL}$ | 0.0000 | 0.1325 | 0.000 |
| $\beta_{KE}$ | 0.0000 | 0.1492 | 0.000 |
| $\alpha_L$ | 0.2745 | 0.0025 | 108.766 |
| $\beta_{LL}$ | 0.0000 | 0.0548 | 0.000 |
| $\beta_{LE}$ | 0.0000 | 0.0474 | 0.000 |
| $\alpha_E$ | 0.0448 | 0.0006 | 73.664 |
| $\beta_{EE}$ | 0.0000 | 0.0394 | 0.000 |

This allows to conclude that,

A. The Translog form reduces to a Cobb-Douglas form.

B. Imposing concavity constraints destroys the flexibility of the Translog form.

C. All Allen-elasticities between 2 inputs are equal to 1.

D. All the previous answers are true.

## TOPIC 4. INEQ: Earnings and Consumption Inequalities (Tim Lee)

Questions 1-4 are based on the table below. Suppose we have data on a sample of individuals' wages observed over time. Every year, a new wave of individuals who just became age 30 are added to the dataset:

| Age 30+$a$ | | Year 2000+$t$: 0 | 1 | 2 | ... |
|---|---|---|---|---|---|
| 0 | (A) | $\gamma_{30}$ | $\beta_1 + \gamma_{31}$ | $\beta_2 + \gamma_{32}$ | ... |
| 1 | | $\alpha_1 + \gamma_{29}$ | (a) $\alpha_1 + \beta_1 + \gamma_{30}$ | (b) $\alpha_1 + \beta_2 + \gamma_{31}$ | ... |
| 2 | | $\alpha_2 + \gamma_{28}$ | (c) $\alpha_2 + \beta_1 + \gamma_{29}$ | (d) $\alpha_2 + \beta_2 + \gamma_{30}$ | ... |
| 3 | | $\alpha_3 + \gamma_{27}$ | $\alpha_3 + \beta_1 + \gamma_{28}$ | $\alpha_3 + \beta_2 + \gamma_{29}$ | ... |
| 4 | | $\alpha_4 + \gamma_{26}$ | $\alpha_4 + \beta_1 + \gamma_{27}$ | $\alpha_4 + \beta_2 + \gamma_{28}$ | ... |
| 5 | | $\alpha_5 + \gamma_{25}$ | $\alpha_5 + \beta_1 + \gamma_{26}$ | $\alpha_5 + \beta_2 + \gamma_{27}$ | ... |
| ... | | ... | ... | ... | ... |
| 30 | (B) | $\alpha_{30}$ | $\alpha_{30} + \beta_1 + \gamma_1$ | $\alpha_{30} + \beta_2 + \gamma_2$ | ... |

1. We want to run an APC regression to identify the coefficients $\{\alpha_a, \beta_t, \gamma_c\}$. Now let's focus on the boxed region within the above table. The fundamental reason not all three sets of coefficients cannot by identified is

   A. The people in cell (a) and (b) are the same

   B. The people in cell (a) and (c) are the same

   C. The people in cell (a) and (d) are the same

   D. No problem, we can always identify APC effects

2. Suppose I was able to estimate the coefficients, and find that the time effects are $\beta_1 = \beta_2 = \ldots = \beta_T = 0$. This means that for any given individual, there has been no change in wages over time.

   A. True

   B. False

3. You want to use Deaton's normalization to identify APC effects. How must you change the coefficients that are to be estimated?

   A. We must add $\alpha_0$ to all cells in the row with age $a = 0$, since we no longer assume it is zero

   B. We add $\sum_{a=2}^{A}(a-2)\alpha_a$ to all cells in the row with age $a = 0$, and replace $\alpha_1$ with $-\sum_{a=2}^{A}(a-1)\alpha_a$ too all cells in the row with age $a = 1$

   C. We must add $\beta_0$ to all cells in the column with year $t = 0$, since we no longer assume it is zero

   D. We add $\sum_{t=2}^{T}(t-2)\beta_t$ to all cells in the column with year $t = 0$, and replace $\beta_1$ with $-\sum_{t=2}^{T}(t-1)\beta_t$ too all cells in the column with year $t = 1$

4. Using Deaton's normalization, you have recovered the full set of coefficients $\beta_t$, $t = 2000, \ldots 2015$. Now, if you regress $\beta_t$ on $t$, the slope will be equal to the growth rate of average wages.

   A. True

B. False

5. Data on consumption inequality (among men) from the 1970s-1990s in the U.S., U.K., and Taiwan all show that overall it increases over the life-cycle (inequality increases with age). However, inequality seems to rise only in later ages in Taiwan. This *may be* because

   A. Young, rich Taiwanese save a lot when young, and spend more only when they become old

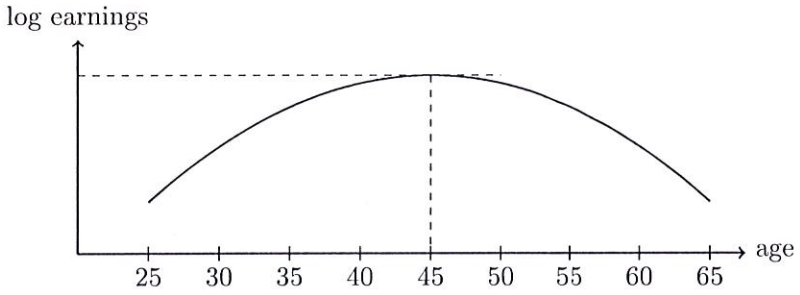
   B. Earnings and income inequality is low among young Taiwanese, and only increases when they are old

   C. Rich Taiwanese parents pass down large amounts of bequests/inheritance, so that even young Taiwanese who are poor can spend a lot

   D. All of the above.

   *Note that I am not asking what Deaton and Paxson (1997) actually find in their paper. I am only asking what can be a plausible reason.*

6. Suppose that in reality, earnings peak exactly age age 45, so the *true* age-earnings profile looks like



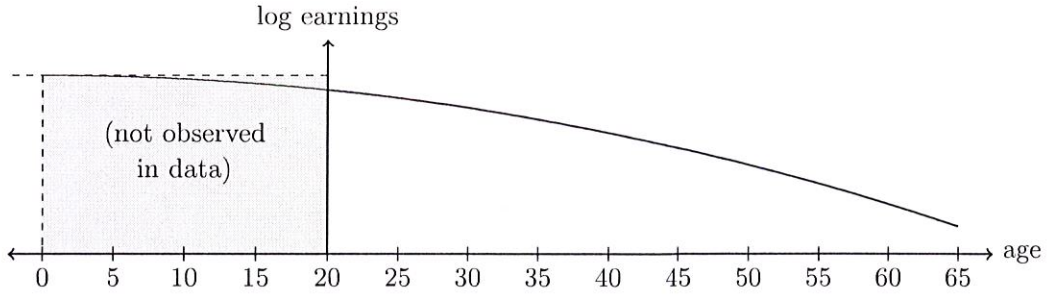

   Then the appropriate APC regression to run would be

$$\log e_{i,a,t,c} = \xi + \alpha_2(a-45)^2 + \beta_t + \gamma_c + \epsilon_{i,a,t,c},$$

   where $e_{i,a,t,c}$ is the time $t$ earnings of individual $i$ who is age $a$ born in cohort $c$; $\xi$ is a regression constant; and $(\beta_t, \gamma_c)$ are time and cohort dummies. Suppose that in the data, we only observe each individual for at most 10 years. Further suppose we were to ignore the age 45 peak and instead regress

$$\log e_{i,a,t,c} = \tilde{\xi} + \tilde{\alpha}_2 a^2 + \tilde{\beta}_t + \tilde{\gamma}_c + \tilde{\epsilon}_{i,a,t,c}.$$

   Then we would recover a similar shape, and the only thing that will change is that the estimated age-earnings profile is shifted so that it looks like it peaks at age 0 (but we will not observe any earnings below age 20):




A. True

B. False

## Topic 5. FAM: Economics of the Family (Nicolas Pistolesi)

1. Using a sample of individuals from a labor force survey, we want to estimate a wage equation by OLS using the following model:

$$y_i = \alpha + \beta_1 x_{1i} + \beta_2 x_{2i} + u_i \text{ with } E(u|x_1, x_2) = 0$$

with $y_i$ the log wage and $x_{1i}$ representing age and $x_{2_i}$ representing education for individual $i$. For this sample, we only observe individuals aged above 40 (eg $x_{1i}$>40). There is a sample selection problem that should be taken into account.

   A. True

   B. False

2. In Heckman's two-steps method to correct for sample selection issues, the second step consists in estimating simultaneously the equation of interest and the selection equation.

   A. True

   B. False

3. In Angrist and Evans paper entitled *Children and Their Parents' Labor Supply: Evidence from Exogenous Variation in Family Size*, the authors show that female and male labor supply functions are getting closer over the last thirty years.

   A. True

   B. False

4. Estimating the linear model $y = \mathbf{x}\beta + u$ with $E(u|\mathbf{x}) = 0$ using the selection equation $s = 1(\mathbf{z}\gamma + v)$ with $s = 1$ when $y$ is observed and $s = 0$ otherwise, what is the exclusion restriction?

   A. $\mathbf{x}$ should be excluded from the selection equation.

   B. $\mathbf{z}$ should be excluded from the equation of interest.

   C. Some of the elements of $\mathbf{x}$ should be excluded from $\mathbf{z}$.

   D. Some of the elements of $\mathbf{z}$ should be excluded from $\mathbf{x}$.

5. The Wald estimator is:

   A. A more general estimator than the 2-SLS estimator.

   B. It is defined by $\beta_W = \frac{E(Y|Z=1) - E(Y|Z=0)}{E(Z|X=1) - E(Z|X=0)}$.

   C. A particular case of 2-SLS when the instrument is dichotomous and there are covariates in the equation of interest.

   D. None of the above.

6. Estimating $y = \alpha + \beta_1 x_1 + \beta_2 x_2 + u$ by 2-SLS using $z$ as instrument for $x_1$: The reduced form equation is

   A. $y = \gamma_0 + \gamma_1 x_1 + \gamma_2 x_2 + \gamma_3 z + w$.

   B. $x_1 = \delta_0 + \delta_1 x_2 + \delta_2 z + w$.

   C. $y = \zeta_0 + \zeta_1 z + \zeta_2 x_2 + w$.

   D. $x_1 = \theta_0 + \theta_1 z + w$.

   With $w$ a residual.

## Topic 6. EDUC: Education Economics (François Poinas)

1. In a linear panel data model, assuming fixed effects corresponds to assuming that time-unvarying individual specific unobserved characteristics are uncorrelated with explanatory variables.
   A. True
   B. False

2. In a linear panel data model with fixed effects, the parameters of time-unvarying explanatory variables are not identified.
   A. True
   B. False

3. In an ordered probit model, the sign of the parameter $\beta_k$, associated to the explanatory variable $x_k$, is identical to the sign of the marginal impact of the variable $x_k$ on the probability that the option with the largest value is chosen.
   A. True
   B. False

4. Consider the following Mincerian wage equation $\log(w_i) = \beta_0 + \beta_1 s_i + \beta_2 exp_i + \beta_3 exp_i^2 + \varepsilon_i$, where $s_i$ denotes years of schooling and $exp_i$ denotes years of labor market experience. The variable $exp_i^2$ is included in the list of explanatory variables to:
   A. Solve for the ability bias.
   B. Introduce a non-linear impact of experience on the log of wages.
   C. Solve for the endogeneity of labor market experience.
   D. None of the above.

5. In the article of Angrist and Krueger (1991)[1], what is the empirical strategy adopted to address the problem of endogeneity of years of schooling in a Mincerian wage equation?
   A. They compare wages of twins, assuming that unobserved ability differences are negligible among twins.
   B. They use a difference-in-differences strategy where they exploit the fact that some states in the USA implemented schooling reforms and other states didn't.
   C. They estimate a structural model of schooling decisions, employment occupation and wages.
   D. They use an instrumental variable strategy by using the quarter at which individuals are born in the year as an instrument.

[1] Angrist, J., Krueger, A., 1991, "Does Compulsory School Attendance Affect Schooling and Earnings?", *The Quarterly Journal of Economics*, vol. 106, pp. 979-1014

6. Consider the article of Bedard (2001)[2]. Which of the following statements is NOT compatible with the signaling model (when there is no human capital effect of education) presented in the paper?

   A. The signaling model assumes that the cost of acquiring education increases with the ability level.

   B. The signaling model assumes that the employers pay workers having the same level of education at the average perceived ability level of that group.

   C. The signaling model predicts that the High School dropout rate is larger in regions where there is a local university.

   D. The signaling model predicts that the average ability level of High School dropouts is larger in regions where there is a local university.

[2]Bedard, K., 2001, "Human Capital versus Signaling Models: University Access and High School Dropouts", Journal of Political Economy, vol. 109 (4), pp. 749-775

## Topic 7. IO: Industrial Organization (Mathias Reynaert)

1. When we estimate a structural model we always have to make an assumption for the supply side (how do firms compete with each other). It is not possible to infer conduct from the data.
   A. True
   B. False

2. The free entry condition in the Bresnahan and Reiss model states: the last firm that entered the market makes greater than or equal to zero profits.
   A. True
   B. False

3. More entry is always efficient as it lowers prices for consumers and therefore increases consumer surplus.
   A. True
   B. False

4. When we estimate a static entry model we assume that markets are isolated. Why is this assumption important?
   A. If markets are not isolated we would obtain downward biased estimates for fixed costs.
   B. If entry decisions in a market affect another market the model is not specified correctly.
   C. It is often much harder to get good data on prices and quantities in non-isolated markets.
   D. If profits across markets are correlated the error would not be additive in the profit function.

5. Entry restrictions that allow at most K firms, together with minimum prices, are policies to make pharmacies enter smaller markets. When we estimate a model with an entry restriction we need to adjust the entry conditions. Why?
   A. When we observe K firms in a market we don't know if firm K is the last one profitable or the last one allowed to enter.
   B. When we observe K firms in a market we know that they are all profitable and we cannot specify the zero profit entry condition.
   C. The additive error term will no longer have a normal distribution and therefore we cannot estimate the likelihood as if it was an ordered probit model.
   D. The minimum price causes an increase in the markups of the K firms, therefore the free entry model is not applicable anymore.

6. The per firm entry thresholds computed in Bresnahan and Reiss give us information about the change in the degree of price competition when an extra firm enters. We have that $S_n = F/V(n)$ and $s_n = S_n/N$. We find in the market for restaurants that $s_3/s_2 = 2$ and $s_4/s_3 = 3$.

A. This shows that we need more inhabitants per restaurant for the fourth restaurant than for the third restaurant to enter the market.

B. This is consistent with the assumption of isolated markets.

C. This means that prices decline faster with the first entrants.

D. This is inconsistent with the assumption that variable profits are declining in n.

## Topic 8. HIST: Economic History (Mohamed Saleh)

1. In the article by Richard Hornbeck entitled "The Enduring Impact of the Dust Bowl," the identification assumption that underlies the author's difference-in-differences strategy is that in the absence of the Dust Bowl, counties with different erosion levels would have had the same farm land values in the 1930s.
   A. True
   B. False

2. Nathan Nunn attributed Sub-Saharan Africa's underdevelopment to its slave exports between 1400 and 1900. Slave exports are exogenous because they were imposed on Sub-Saharan African countries without their choice.
   A. True
   B. False

3. Abramitzky, Boustan, and Eriksson collected data on Norwegian immigrants and stayers between 1865 and 1900. The authors' objective was to disentangle the return to immigration from the self-selection of immigrants.
   A. True
   B. False

4. Abramitzky, Boustan, and Eriksson matched Norwegian-born males across the 1865 Norwegian census and the 1900 U.S. and Norwegian censuses. They did the matching based on:
   A. Name and place of residence
   B. Name and occupation-based earnings
   C. Name, age, and place of birth
   D. Name, age, place of birth, and occupation-based earnings

5. Meyersson employed a regression discontinuity design (RDD) in order to examine the impact of Islamist rule in Turkey in 1994 on educational outcomes in 2000. The validity of this RDD method relies on the assumption that:
   A. In the absence of Islamist rule, the change in educational outcomes between 1994 and 2000 would have been the same across Islamist-ruled and non-Islamist-ruled municipalities
   B. Islamist rule affects educational outcomes only around the threshold of winning the elections (i.e. within a margin of victory of 5 percentage points)
   C. All other unobservable characteristics of Turkish municipalities that could affect educational outcomes vary smoothly at the threshold of winning the elections
   D. There is no discontinuity in educational outcomes at the threshold of winning the elections

6. Acemoglu, Johnson, and Robinson used early European settlers' mortality as an instrumental variable for current institutions in order to examine the impact of institutions on economic performance. Specifically, they argued that in countries where Europeans were more likely to settle they established better institutions. European settlement was due to the fact that:

   A. These countries had better pre-Colonial local institutions

   B. These countries were more densely populated

   C. These countries had more favorable disease environments

   D. These countries had fewer slave exports

# ANSWERS SHEET

Stick your
3rd barcode
sticker here

Please, indicate for each column the label among the 3 topics chosen (ex: "IO", "FAM", etc.) and report your answers in the corresponding column of the following table. Then, include this sheet (and this sheet only) in the exam double sheet.

WARNING: IF, FOR A GIVEN COLUMN, THE NAME OF THE TOPIC IS NOT INDICATED, ANSWERS WILL NOT BE TAKEN INTO ACCOUNT AND NO MARK WILL BE GIVEN FOR THE TOPIC.

| | **Topic 1:** _____ | **Topic 2:** _____ | **Topic 3:** _____ |
|---|---|---|---|
| **Question 1** | | | |
| **Question 2** | | | |
| **Question 3** | | | |
| **Question 4** | | | |
| **Question 5** | | | |
| **Question 6** | | | |