Problem Set 6

May 4, 2017

The answers to the questions of this problem set are to be given exclusively in the answer sheet.

- Make sure your write your name and encode your ID on the answer sheet (If you are an Erasmus student, please only fill the numeric part of your ID.)
- ALL questions can have two or more correct answers.
- Please fill the boxes in the answer sheet completely using a pen as follows
- The answer sheet must not be creased or folded otherwise your problem set won't be graded.
- Hand back just the answer sheet at maximum on Wednesday, May 18th , at noon.

1. In a Probit model, what information do the coefficients convey?
   (a) The magnitude of the covariates on the probability for the dependent variable to be equal to 1.
   (b) The economic significance of the effect of the covariates on the probability for the dependent to be equal to 1.
   (c) The direction of the effect of the covariates on the probability for the dependent variable to be equal to 1.
   (d) The coefficients do not convey any information.
2. In a Probit model, what do we have to calculate to see what is the effect of a small change in a covariate on the probability for the dependent variable to be equal to 1?
   (a) The marginal effects.
   (b) The sum of the coefficients.
   (c) The marginal rate of substitution.
   (d) The Gaussian CDF for the average covariates.
3. What is the biggest drawback of the linear probability model?
   (a) Having a dummy as dependent variable can generate the dummy variable trap.
   (b) It is always heteroskedastic.
   (c) Probabilities cannot be correctly regressed.
   (d) Predicted probabilities can be lower than 0 or higher than 1.
4. Which is one of the advantages of the linear probability model?
   (a) It is aasy to estimate and interpret.
   (b) It gives more plausible results.
   (c) Predicted probabilities can be higher than 0 and lower than 1.
   (d) It treats the probability as linear function of the regressors.
5. When we run a linear probability model, what do we have to take into account?
   (a) Regressors are always linearly correlated
   (b) The estimator for the standard errors of the coefficients must be heteroskedastic-robust.
   (c) All regressors must be dummy variables.
   (d) None of the others.

A bank wants to know whether it is safe to make loans to its customers. To do this, the bank runs a Probit model to predict the probability of insolvency for its customers. The regressors the bank uses to run the model are:

- *default*: equal to 1 if the person failed to pay back its mortgage in his/her past and 0 otherwise.
- *payback*: equal to 1 if the person payed back its mortgage in his/her past and 0 otherwise ($payback = 1 - default$).
- *female*: equal to 1 if the customer is a female and 0 otherwise.
- *black*: equal to 1 if the customer is black and 0 otherwise.
- *age*: age of the person expressed in years.
- *education*: number of years of education.
- Experience (*exper*): the work experience in years.
- *wage*: monthly wage of the person in 1000 dollars.
- Other loans (OL): equal to 1 if the person already has other loans and 0 otherwise. We run the

  Probit regression with *default* as dependent variable against all the regressors. The Probit model generates the following output:

```
Coefficients:
             Estimate   Std. Erro  t value  Pr(>|t|)
(Intercept) -1.411e-02  4.146e-02  -0.340 0.733645
female      -3.326e-02  8.573e-03  -3.879 0.000105
black       -2.757e-02  1.610e-02  -1.712 0.086932
education   -4.724e-02  8.971e-03  -5.266 1.43e-07
age          9.674e-03  1.898e-03   5.098 3.50e-07
exper       -2.327e-01  1.260e-02  -18.47  < 2e-16
wage        -1.318e-04  2.193e-05  -6.009 1.94e-09
OL           3.227e-01  1.951e-02  16.539  < 2e-16
```

We run a Logit regression using the same covariates, but this time the dependent variable is *payback*.

The Logit model generates the following output:

```
Coefficients:
Estimate   Std. Erro  t value  Pr(>|t|)
(Intercept) -1.765e-01  1.521e-02 -11.601   < 2e-16
female      -3.318e-01  4.803e-02  -6.909  4.88e-12
black       -8.949e-02  5.274e-02  -1.697  0.089713
education    3.419e-02  6.915e-03   4.944  7.65e-07
age         -1.725e-01  2.878e-02  -5.993  2.06e-09
exper        6.592e-01  6.079e-02  10.843  < 2e-16
wage         8.608e-01  5.954e-02  14.457  < 2e-16
OL          -4.656e-04  8.266e-05  -5.632  1.78e-08
```

6. Consider the Probit model. What does the coefficient on *education* tell us?

   (a) On average, ceteris paribus, the higher the level of education, the higher the probability of default, ceteris paribus.

   (b) One year more of education is linked with an increase of 4.7% on the probability of default, ceteris paribus, on average.

   (c) On average, ceteris paribus, the higher the level of education, the lower the probability of default, ceteris paribus.

   (d) One year more of education is linked with a decrease of 4.7% on the probability of default, ceteris paribus, on average.

7. Consider the Logit model. What does the coefficient on *education* tell us?

   (a) On average, ceteris paribus, the higher the level of education, the higher the probability of default, ceteris paribus.

   (b) One year more of education is linked with a decrease of 3.4% on the probability of default, ceteris paribus, on average.

   (c) On average, ceteris paribus, the higher the level of education, the lower the probability of default, ceteris paribus.

   (d) One year more of education is linked with an increase of 3.4% on the probability of default, ceteris paribus, on average.

8. Consider the Probit model. What does the coefficient on *wage* tell us?

   (a) Nothing, the coefficient on wage is not statistically significant.

   (b) On average, ceteris paribus, the higher the wage, the higher the probability of default.

   (c) We cannot say.

   (d) On average, ceteris paribus, the higher the wage, the lower the probability of default.

9. Consider the Logit model. What does the coefficient on *wage* tell us?

   (a) On average, ceteris paribus, the higher the wage, the lower the probability of default.

   (b) We cannot say.

   (c) On average, ceteris paribus, the higher the wage, the higher the probability of default.

   (d) Nothing, the coefficient on wage is not statistically significant.

10. Consider the Probit model. What does the coefficient on *age* tell us?

    (a) On average, older people are less likely to pay back their debts, controlling for all other factors.

(b) If the person is one year older, the probability to pay back its debt increases by 0.967%, ceteris paribus, on average.

(c) On average, older people are more likely to pay back their debts, controlling for all other factors.

(d) We cannot say.

11. Consider the Logit model. What does the coefficient on *age* tell us?

    (a) If the person is one year older, the probability to pay back its debt increases by 17%, ceteris paribus, on average.

    (b) On average, older people are more likely to pay back their debts, controlling for all other factors.

    (c) On average, older people are less likely to pay back their debts, controlling for all other factors.

    (d) We cannot say.

12. Consider the Probit model. What does the coefficient on experience tell us?

    (a) One year more of employment is linked with a decrease of 23% in the probability of default, on average, ceteris paribus.

    (b) People who have been working for more years are less likely to pay back their debts,on average, ceteris paribus.

    (c) People who have been working for more years are more likely to pay back their debts, on average, ceteris paribus.

    (d) We cannot say.

13. Consider the Logit model. What does the coefficient on experience tell us?

    (a) People who have been working for more years are less likely to pay back their debts,on average, ceteris paribus.

    (b) People who have been working for more years are more likely to pay back their debts, on average, ceteris paribus.

    (c) We cannot say.

    (d) One year more of employment is linked with a decrease of 65% in the probability of default, on average, ceteris paribus.

14. Consider the Probit model. What does the coefficient on *female* tell us?

    (a) It is the effect of increasing the number of women in the sample, ceteris paribus, on average.

    (b) Females are less likely to pay back their debts, on average, ceteris paribus.

    (c) We need more data in order to tell anything.

    (d) Females are more likely to pay back their debts, on average, ceteris paribus.

15. Consider the Logit model. What does the coefficient on *female* tell us?

    (a) Females are less likely to pay back their debts, on average, ceteris paribus.

(b) Females are more likely to pay back their debts, on average, ceteris paribus.

(c) It is the effect of increasing the number of women in the sample, ceteris paribus, on average.

(d) We need more data in order to tell anything.

16. Consider the Probit model. Predict the probability to pay back her debt for Miss A. Miss A is a 30 years old white woman which has 20 years of education and has been working for 2 years. Miss A earns 2000 dollars per month and she never asked for a loan before.

    (a) 82.9%

    (b) 87.8%

    (c) 17.1%

    (d) 12.2%

17. Consider the Logit model. Predict the probability to pay back her debt for Miss A. Miss A is a 30 years old white woman which has 20 years of education and has been working for 2 years. Miss A earns 2000 dollars per month and she never asked for a loan before.

    (a) 84.04%

    (b) 15.96%

    (c) 37.51%

    (d) We cannot say.

18. Consider the Logit model. Predict the probability to pay back her debt for Miss Z. Miss Z is a 20 years old woman which has 10 years of education.

    (a) 14.3%

    (b) We cannot say.

    (c) 85.7%

    (d) 16.19%

19. Consider the Probit model. Predict the probability to pay back his debt for Mr G. Mr. G is a 27 years old white man which has 20 years of education. Mr. G never worked nor asked for a loan before.

    (a) 24.7%

    (b) 75.3%

    (c) 75.7%

    (d) We cannot say.

20. Consider the Logit model. Predict the probability to default for Miss F. Miss F is a 50 years old white woman which has 10 years of education and work since 10 years. Miss A earns 1000 dollars per month and she already asked for a loan 2 times.

    (a) 99.6%

(b) 32.3%

(c) 0.4%

(d) We cannot say.

21. Suppose you run an experiment in two different points in time. You want to run a model which treats the unobserved heterogeneity as constant in time. What is the model that "does the job"?

    (a) Pooled Panel data regression.

    (b) Linear regression.

    (c) None of the others.

    (d) Fixed Effects model.

22. In a Fixed effects model, α_i and X_{it}...

    (a) are uncorrelated.

    (b) must be uncorrelated.

    (c) None of the others.

    (d) can be correlated.

23. Strict exogeneity in Panel data models implies:

    (a) $E[Y_{it}|x_{i1}, x_{i2}, ..., x_{iT}, \alpha_i] = 0$

    (b) $E[Y_{it}|x_{i1}, x_{i2}, ..., x_{iT}] = 0$

    (c) $E[x_{i1}, x_{i2}, ..., x_{iT}, \alpha_i] = 0$

    (d) None of the others.

24. What does it mean that a given variable Y is autocorrelated?

    (a) $E[Y_{t-j}^2] \neq 0$ for every $j \neq 0$.

    (b) None of the others.

    (c) $E[Y_t, Y_{t-j}] = 0$ for every j.

    (d) $E[Y_t, Y_{t-j}] \neq 0$ for every $j \neq 0$.

25. When we run Panel data models, which kind of specification is more likely to give us the correct standard errors?

    (a) Homoskedastic standard errors.

    (b) Clustered standard errors.

(c) Heteroskedastic standard errors.

(d) None of the others.

26. Let's consider a two period Panel data model with (assumed) constant unobserved heterogeneity. If we do not take into account the unobserved heterogeneity, which problem can arise?

    (a) Multicollinearity.

    (b) Dummy variable trap.

    (c) Omitted variable bias.

    (d) None of the others.

27. Let's consider a two period Panel data model with (assumed) constant unobserved heterogeneity. How we can eliminate the unobserved heterogeneity?

    (a) None of the others.

    (b) Time demeaning.

    (c) Logistic regression with dummy regressors.

    (d) Entity demeaning.

We want to study the effect on wage of experience and education. The dataset contains the following variables:

- *lwage*: Log of the wage earned in a specific year.
- *exp*: experience, proxied by the years of full employment.
- *exp2*: experience squared.
- *south*: equal to 1 if the person work in the south of Italy and 0 otherwise.
- *wks*: the number of weeks worked in the previous year.
- *education*: number of years of education.
- *female*: equal to 1 if the person is a female and 0 otherwise.

Running a Fixed effect (demeaning) model with *lwage* as dependent variable against all the regressors produce the following output:

Estimate Std. Error t value Pr(>|t|) exp 1.1379e-01 2.4689e-03 46.0888 < 2.2e-16 exp2 -4.2437e-04 5.4632e-05 -7.7678 1.036e-14 wks 8.3588e-04 5.9967e-04 1.3939 0.1634 south -1.5395e-03 3.4041e-02 -0.0452 0.9639

28. Is the coefficient on *exp* statistically significant at 1% level?

    (a) Yes.

    (b) No, it is significant only at 5%.

    (c) No, it is significant only at 10%.

(d) None of the others.

29. Is the coefficient on *wks* statistically significant at 1% level?

    (a) No.

    (b) Yes, but not at 0.1%.

    (c) Yes, it is also significant only at 5%.

    (d) None of the others.

30. Is the coefficient on *educ* statistically significant at 1% level?

    (a) *educ* is omitted because is time invariant and hence eliminated in the Fixed effect model.

    (b) No, it is significant only at 5%.

    (c) Yes, both at 1% and 5% level.

    (d) None of the others.

31. Why the coefficient on *female* is not present in the output?

    (a) It is a dummy variable which is displayed only if the regression is about a female.

    (b) There is an error in the output.

    (c) It is omitted because is time invariant and hence eliminated in the Fixed effect model.

    (d) None of the others.

32. Given our Panel, can we say that more experience is associated with an higher wage?

    (a) Yes.

    (b) No.

    (c) We cannot say.

    (d) No, because the coefficient is not statistically significant.

33. Given our Panel, can we say that working in the south is associated with an higher wage?

    (a) Yes, working in the south in increase the wage of 0.154%.

    (b) Yes, working in the south in increase the log-wage of 0.154%.

    (c) No. The coefficient is not statistically significant.

    (d) None of the others.

We want to find the effect of skipping classes in college on the final grade for an Econometrics course. The model we would like to estimate is the following:

$$score_i = \beta_0 + \beta_1 skipped_i + u_i$$

where *skipped* is the number of skipped classes and *score* is the final grade measured from 0 to 30. Suppose we also have data on the distance of the student's residence from the college. We would like to use such variable as an instrument for *skipped.*

34. What problem could the distance from college have, in case we want to use it as an instrument?

    (a) Students from low income families may not be able to afford houses close to college, which could cause skipping classes more often, and at the same time income may affect the student's performances: this would make our instrument endogenous.

    (b) Students from low income families may not be able to afford houses close to college, which could cause skipping classes more often, and at the same time income may affect the student's performances: this would make our instrument weak.

    (c) The distance from campus only affects the score through the number of hours skipped classes: this would make our instrument not relevant.

    (d) The distance from campus only affects the score through the number of hours skipped classes: this would make our instrument endogenous.

35. What is the formula for the β_1^{IV} coefficient?

    (a) $\frac{cov(skipped,distance)}{cov(score,distance)}$

    (b) $\frac{cov(score,distance)}{cov(skipped,distance)}$

    (c) $\frac{cov(score,distance)}{var(skipped)}$

    (d) $\frac{cov(score,skipped)}{var(skipped)}$

    (e) $\frac{cov(skipped,distance)}{var(distance)}$

36. If we believe that the β_1^{OLS} is underestimated, among the following assumptions, which ones are we making?

    (a) Better (more able) students skip fewer classes than other students and get higher grades.

    (b) Better (more able) students skip more classes than other students and get higher grades.

    (c) Better (more able) students live closer to campus, and they skip more classes.

    (d) Better (more able) students live far from campus, and they skip more classes.

37. In estimating the reduced form for the model, the t-statistic we get for the coefficient on *distance* is 2.53. What can we conclude?

    (a) The instrument is weak.

    (b) The instrument is not weak.

    (c) The instrument is robust.

(d) I cannot say: I need the F-statistic.

38. Which are the characteristics a valid instrument should have in this case?

(a) It should be correlated with the number of skipped classes and uncorrelated with the student's score.

(b) It should be uncorrelated with the number of skipped classes and correlated with some other factor affecting the student's score.

(c) It should be correlated with the number of skipped classes and uncorrelated with other factors affecting the student's score.

(d) It should be uncorrelated with the number of skipped classes and correlated with the student's score.

39. Assuming our instrument is valid, what is the reduced form in this model?

(a) $distance_i = \pi_0 + \pi_1 skipped_i + e_i$

(b) $score_i = \pi_0 + \pi_1 distance_i + e_i$

(c) $skipped_i = \pi_0 + \pi_1 distance_i + e_i$

(d) $distance_i = \pi_0 + \pi_1 skipped_i + e_i$

40. If $cov(skipped, distance)$ is close to 0...

(a) The β_1^{IV} can be severely biased even if we have a huge number of observations.

(b) The sampling distribution of the β_1^{IV} is not normal.

(c) We have a weak instrument.

(d) The instrument is endogenous.

(e) The instrument is exogenous.

41. Suppose we run the two-stage-least-square procedure first finding the coefficient of the reduced form, then estimating a new *skipped* and finally regressing *score* on this new variable. What do we obtain?

(a) The coefficients in the second stage are correctly estimated.

(b) The standard errors in the first stage are underestimated.

(c) The coefficients in the first stage are correctly estimated.

(d) The standard errors in the second stage are underestimated.

The model we want to estimate is the following:

$$ln(wage_i) = \beta_0 + \beta_1 educ_i + \beta_2 exper + \beta_3 exper^2 + u_i$$

where *educ* is expressed in years and *exper* is years of experience. We are worried that for unobserved ability. We have two potential instrument at our disposal: *sibs* is the individual's number of sibilings, *mothereduc* the years of education for the individual's mother.

42. If we believe that *sibs* is a valid instrument for *educ* in this regression and I mainly care for the ability bias, what are we implying?

    (a) The number of sibilings is not linked with one's ability, but it affects the number of his/her years of education.

    (b) The number of sibilings is linked with one's ability, but it does not affect the number his/her years of education.

    (c) The number of sibilings is linked with one's ability, and it affects the number his/her years of education.

    (d) The number of sibilings is not linked with one's ability, and it does not affects the number his/her years of education.

43. Using both instruments, the Wald test on their coefficients in the reduced form is 17.34. What can you conclude?

    (a) The set of instrument is weak.

    (b) The set of instrument is not valid.

    (c) The set of instrument is not weak.

    (d) Nothing, I need an F-statistic.

44. Assuming both our instrument is valid, what is the reduced form for this model?

    (a) $educ_i = \pi_0 + \pi_1 sibs + \pi_2 mothereduc_i + \pi_3 exper + u_i$

    (b) $educ_i = \pi_0 + \pi_1 sibs + \pi_2 mothereduc_i + u_i$

    (c) $ln(wage_i) = \pi_0 + \pi_1 sibs + \pi_2 mothereduc_i + +u_i$

    (d) $educ_i = \pi_0 + \pi_1 sibs + \pi_2 mothereduc_i + \pi_3 exper + \pi_4 exper^2 + u_i$

    (e) $ln(wage_i) = \pi_0 + \pi_1 sibs + \pi_2 mothereduc_i + \pi_3 exper + \pi_4 exper^2 + u_i$

    (f) $ln(wage_i) = \pi_0 + \pi_1 sibs + \pi_2 mothereduc_i + \pi_3 exper + u_i$

45. Using both instruments, we estimate the coefficients in the reduced form. The output

```
## Residual standard error: 10.11 on 2451 degrees of freedom
## Multiple R-squared:  0.020, Adjusted R-squared:  0.015
## F-statistic:  45 on 1 and Inf DF,  p-value: < 2.2e-16
```

    What can you conclude?

    (a) Nothing, I need to estimate the F-statistic only on the coefficients of the instruments.

    (b) The set of instrument is weak.

(c) The set of instrument is valid.

(d) The set of instrument is not weak.

46. In the last stage of the overidentification test, we estimate the following model: $u_i^{IV} = \gamma_0 + \gamma_1 mothereduc + \gamma_2 sibs + \gamma_3 exper + \gamma_4 exper^2 + \epsilon$ In order to have exogeneity for the set of instrument, what should happen?

(a) We should be able to reject $H0 : \gamma_1 = \gamma_2 = 0$.

(b) We should not be able to reject $H0 : \gamma_1 = \gamma_2 = 0$.

(c) We should not be able to reject $H0 : \gamma_1 = \gamma_2 = \gamma_3 = \gamma_4 = 0$.

(d) We should be able to reject $H0 : \gamma_1 = \gamma_2 = \gamma_3 = \gamma_4 = 0$.

We are interested in the deterrent effect of the number of past executions on the murder rate. We have data on 1987, 1990 and 1993 on 50 US state. We estimate the following model:

$$mrdrate_{i,t} = \beta_0 + \theta_1 y90 + \theta_2 y93 + \beta_1 exec_{i,t} + \beta_2 unem_{i,t} + \alpha_i + u_{i,t}$$

where

- *mrdrate* is the number of murders per 100,000 people for state i in year t,
- *exec* is the total number of executions of convicted murderers in the current and in the past 2 years for state i in year t
- *unem* is the annual unemployment rate for state i in year t,
- yXX is a dummy equal to one if the observations concerns the year 19XX, and
- α_i is the unobserved state specific effect.

Here you find the results. The estimates for the α_i are not reported,

$$mrdrate_{i,t} = \underset{(1.68)}{7.64} + \underset{(0.75)}{1.73}\, y90 + \underset{(0.71)}{1.70}\, y93 + \underset{(0.16)}{0.05}\, exec_{i,t} + \underset{0.29}{0.40} unem_{i,t} + a_i + u_{i,t}$$

47. If we believe that past executions of convicted murderers have a deterrent effect on new murders, how should β_1 be?

(a) Positive and statistically significant.

(b) Negative and statistically significant.

(c) Negative and not statistically significant.

(d) Statistically significant.

(e) It depends on the coefficient β_2.

48. What is the interpretation of β_1?

    (a) It depends on the year we are considering.

    (b) Increasing by one the number of convicted murderers executed in the current year or in the past two increases the murder rate by 0.05 for each 100'000 people, ceteris paribus, on average.

    (c) Increasing by one the number of convicted murderers executed in 1987 or in the past two increases the murder rate by 0.05 for each 100'000 people, ceteris paribus, on average.

    (d) The coefficient does not have a proper interpretation.

49. If we assume that the effect of the number of executions on the murder rate changes with time, how should we modify our model?

    (a) We should add interactions between *educ* and all year dummies.

    (b) We should add interactions between *educ* and all year dummies except for y87.

    (c) We should add a dummy for 1987.

    (d) We should use HAC standard errors.

50. What is the interpretation for θ_1?

    (a) If we are in 1990, the average murder rate is higher by 1.73 than in other years, ceteris paribus.

    (b) If we are in 1990, the average murder rate is higher by 1.73 than in 1987, keeping other factors constant.

    (c) If we are in 1991, the average murder rate is higher by 1.73 than in 1990, ceteris paribus.

    (d) If we are in 1991, the average murder rate is higher by 1.73 than in 1987, keeping other factors constant.

51. Why do we add time dummies in our model?

    (a) We want to control for unobserved factors that are constant over time but change across states.

    (b) We want to control for simultaneous causality issues.

    (c) We want to control for unobserved factors that are constant across states but change over time.

    (d) We want to make the effect of *exec* time dependent.

52. How many α_i are estimated in our model?

    (a) 50.

    (b) None.

    (c) 1.

    (d) 49.

PROBLEM SET ANSWER SHEET

0	0	0	0	0	0
1	1	1	1	1	1
2	2	2	2	2	2
3	3	3	3	3	3
4	4	4	4	4	4
5	5	5	5	5	5
6	6	6	6	6	6
7	7	7	7	7	7
8	8	8	8	8	8
9	9	9	9	9	9

← please encode your student number below, and write your first and last names below.

Firstname and lastname:

....

Question 1	A	B	C	D		
Question 2	A	B	C	D		
Question 3	A	B	C	D		
Question 4	A	B	C	D		
Question 5	A	B	C	D		
Question 6	A	B	C	D		
Question 7	A	B	C	D		
Question 8	A	B	C	D		
Question 9	A	B	C	D		
Question 10	A	B	C	D		
Question 11	A	B	C	D		
Question 12	A	B	C	D		
Question 13	A	B	C	D		
Question 14	A	B	C	D		
Question 15	A	B	C	D		
Question 16	A	B	C	D		
Question 17	A	B	C	D		
Question 18	A	B	C	D		
Question 19	A	B	C	D		
Question 20	A	B	C	D		
Question 21	A	B	C	D		
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Question 23	A	B	C	D		
Question 24	A	B	C	D		
Question 25	A	B	C	D		
Question 26	A	B	C	D		
Question 27	A	B	C	D		
Question 28	A	B	C	D		
Question 29	A	B	C	D		
Question 30	A	B	C	D		
Question 31	A	B	C	D		
Question 32	A	B	C	D		
Question 33	A	B	C	D		
Question 34	A	B	C	D		
Question 35	A	B	C	D	E	
Question 36	A	B	C	D		
Question 37	A	B	C	D		
Question 38	A	B	C	D		
Question 39	A	B	C	D		
Question 40	A	B	C	D	E	
Question 41	A	B	C	D		
Question 42	A	B	C	D		
Question 43	A	B	C	D		
Question 44	A	B	C	D	E	F
Question 45	A	B	C	D		
Question 46	A	B	C	D		
Question 47	A	B	C	D	E	
Question 48	A	B	C	D		
Question 49	A	B	C	D		
Question 50	A	B	C	D		
Question 51	A	B	C	D		
Question 52	A	B	C	D		