Queen Mary University of London

January Examination Period 2022-23

ECN370 Development Economics *Duration: 2 hours*

YOU ARE NOT PERMITTED TO READ THE CONTENTS OF THIS QUESTION PAPER UNTIL INSTRUCTED TO DO SO BY AN INVIGILATOR

Answer ALL questions.

Cross out any answers or text that you do not wish to be marked

You are permitted to bring 20 x A4 pages of notes into your examination (i.e. 10 double sided pieces of paper). These can be typed or handwritten and can include graphs and images. They can include material from any source. Your notes must be stapled together and include your student ID number and the module code on the first page. You must submit your notes at the end of the examination with your answer booklet.

Calculators are permitted in this examination. Please state on your answer book the name and type of machine used. Complete all rough workings in the answer book and cross through any work that is not to be assessed.

Possession of unauthorised material at any time when under examination conditions is an assessment offence and can lead to expulsion from QMUL. Check now to ensure you do not have more than 20 pages of notes. You should also not have mobile phones, smartwatches or unauthorised electronic devices on your person. If you do, raise your hand and give them to an invigilator immediately.

It is also an offence to have any writing of any kind on your person, including on your body. If you are found to have hidden unauthorised material elsewhere, including toilets and cloakrooms, it will be treated as being found in your possession. Unauthorised material found on your mobile phone or other electronic device will be considered an assessment offence. A mobile phone that causes a disruption in the exam is also an assessment offence.

EXAM PAPERS MUST NOT BE REMOVED FROM THE EXAM ROOM

Examiner: V Salvestrini

Section A (True or False)

Determine whether the following statements are "True" or "False" and provide a clear motivation/intuition for your answer based on the theory and evidence discussed during the module. In other words, explain **why** the statement is "True" or "False". Each question is worth 5 marks.

Q.A1 Non-communicable diseases (such as diabetes and cancer) explain a higher proportion of deaths in poor than in rich countries.

[5 marks]

Q.A2 A regression discontinuity design provides meaningful estimates only for individuals around the threshold.

[5 marks]

Q.A3 The available empirical evidence suggests that micro-credit has had a transformative social and economic impact on its clients.

[5 marks]

Q.A4 Suppose there are two parties, A (left) and B (right). According to the median voter theorem, the emergence of a third party to the right of party B forces party B to move towards the left.

[5 marks]

Q.A5 In several developing countries, the proportion of women is higher than what would be expected if women and men were born and died at the same rate.

[5 marks]

Section B (Longer Questions)

Q.B1 Measuring poverty. P_α is a general class of poverty indicators defined as:

$$P_\alpha = \frac{1}{n}\sum_{i=1}^{q}\left(\frac{z - y_i}{z}\right)^\alpha$$

where q is the number of individuals (out of a total population of size n) that are below the poverty line z and y_i is the income (or consumption) of individual i. Depending on the choice of α the index specifies different poverty indicators.

a) Define the poverty indicators for α equal to 0, 1 and 2. What are these three different poverty indicators called? Describe what each of them captures.

[6 marks]

b) What are the three desirable properties of a poverty indicator? Explain what these properties mean and discuss to what extent the three different poverty indicators defined above fulfil these.

[9 marks]

c) Suppose the income distribution in country A and B is (1, 2, 2, 4, 5) and (1, 1, 2, 3, 4) respectively, and the poverty line is 3. Compute the poverty indicators. Which country is poorer? Discuss how your conclusions change if you look at different indicators and why.

[10 marks]

Q.B2 Technology adoption Jensen (2007) paper *"The digital provide: information (technology), market performance and welfare in the South Indian fisheries sector"* uses a difference-in-differences strategy to study the effects of access to mobile phones on market efficiency and welfare in the South Indian fisheries sector.

a) Explain the intuition for why access to mobile phones would affect price dispersion in this context.

[6 marks]

b) The standard difference-in-differences strategy used to estimate the impact of a program is schematically illustrated in Figure 1 in the Appendix. Describe what each of the four differences capture (D1, D2, D3 and D4). Which difference captures the causal effect of a program? What is the key identification assumption for this empirical strategy?

[7 marks]

c) Describe the empirical strategy implemented by Jensen (2007) and how it differs from the standard strategy illustrated in b).

[6 marks]

d) Table 1 in the Appendix reports the main results from the paper. Use the table to explain the main findings and discuss the validity of the identification assumption.

[6 marks]

Q.B3 Cost-sharing vs full subsidization

a) Discuss the potential positive and negative implications of cost-sharing compared to free distribution of preventive health care products. Explain what factors will determine whether the positive or negative effects dominate.

[7 marks]

b) Consider Cohen and Dupas (2001) article *"Free Distribution or Cost-Sharing? Evidence from a Randomized Malaria Prevention Experiment"*. Describe how they conducted this study and discuss how their intervention allows them to disentangle the arguments discussed in question a). Your discussion should include an explanation of the empirical strategy and a discussion of the simple theoretical model underlying their hypotheses.

[9 marks]

c) Table 2 and Figure 2 in the Appendix include the main results of the paper. Use the table to explain their findings. How do the authors interpret the results? How do the authors estimate the elasticity of usage?

[9 marks]

End of Paper - An Appendix of 2 pages follows

End of Examination/ V Salvestrini

Figure 1: **Difference-in-Differences**

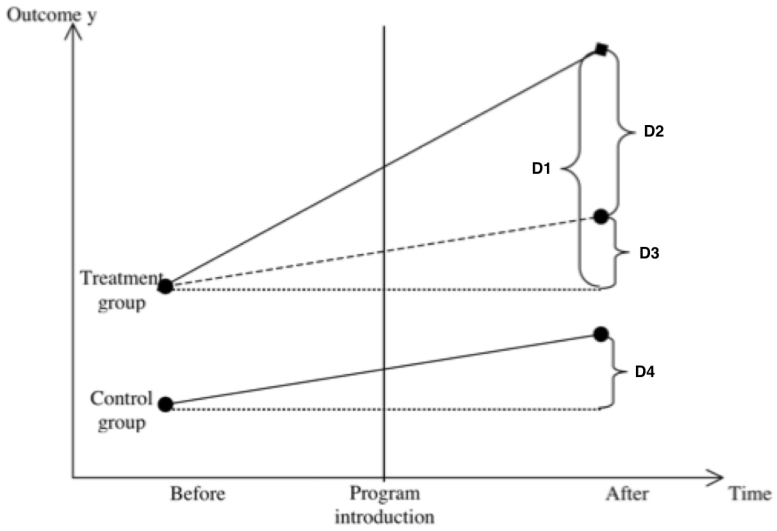


Table 1: **Jensen (2007)**

TABLE III
PRICE DISPERSION AND WASTE IN KERALA SARDINE MARKETS

	Period 0 (pre-phone)	Period 1 (region I adds phones)	Period 2 (region II adds phones)	Period 3 (region III adds phones)
Max–min spread (Rs/kg)				
Region I	7.60	1.86	1.32	1.22
	(0.50)	(0.22)	(0.10)	(0.44)
Region II	8.19	7.30	1.79	1.57
	(0.44)	(0.29)	(0.19)	(0.16)
Region III	8.24	7.27	7.60	2.56
	(0.47)	(0.27)	(0.25)	(0.34)
Coefficient of variation (percent)				
Region I	.68	.14	.08	.07
	(0.07)	(0.01)	(0.01)	(0.01)
Region II	.62	.55	.12	.08
	(0.04)	(0.04)	(0.01)	(0.01)
Region III	.69	.57	.54	.14
	(0.09)	(0.04)	(0.03)	(0.02)
Waste (percent)				
Region I	0.08	0.00	0.00	0.00
	(0.01)	(0.00)	(0.00)	(0.00)
Region II	0.05	0.04	0.00	0.00
	(0.01)	(0.01)	(0.00)	(0.00)
Region III	0.07	0.06	0.06	0.00
	(0.01)	(0.01)	(0.01)	(0.00)

Data from the Kerala Fisherman Survey conducted by the author. Period and regions are as defined in the text. The max–min spread is the difference between the highest and lowest 7:30–8:00 A.M. average price on a given day among the five markets making up each region, in year 2001 Rs/kg. The coefficient of variation is the standard deviation of the 7:30–8:00 A.M. average price on a given day across the five markets within each region divided by the mean 7:30–8:00 A.M. average price for each region. Waste refers to the percent of fishermen who report not selling their catch. Standard errors in parentheses.

Table 2: **Cohen and Dupas (2010): Main results I**

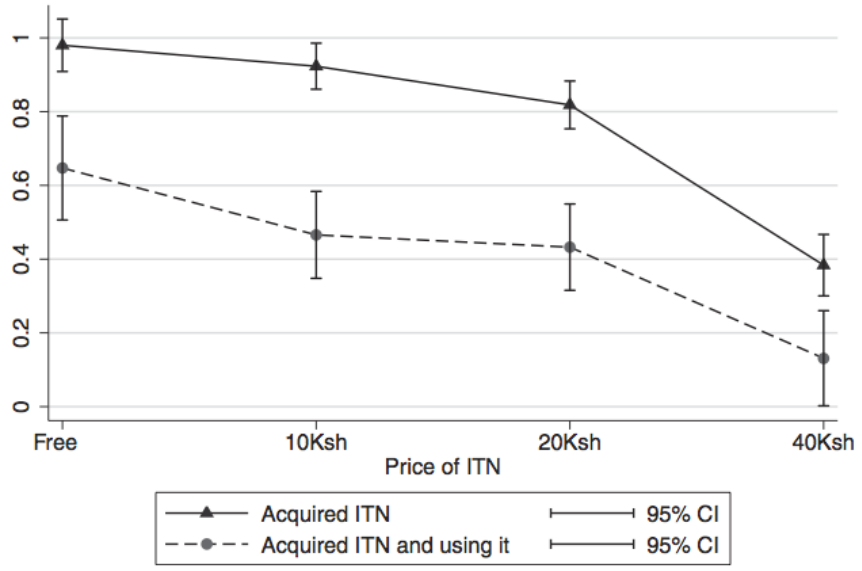
WEEKLY ITN SALES ACROSS PRICES: CLINIC-LEVEL DATA

	Weekly ITN sales					
	(1)	(2)	(3)	(4)	(5)	(6)
ITN price in Kenyan shillings (Ksh)	−0.797	−0.797	−0.803			
	(0.401)*	(0.403)*	(0.107)***			
ITN price = 10 Ksh ($0.15)				−0.33	−0.33	1.52
				(16.81)	(16.92)	(4.37)
ITN price = 20 Ksh ($0.30)				−9.50	−9.50	−14.08
				(16.04)	(16.14)	(5.00)**
ITN price = 40 Ksh ($0.60)				−32.42	−32.42	−33.71
				(15.38)*	(15.47)*	(2.88)***
Number of weeks since program started		−5.08	−5.08		−5.08	−5.08
		(1.41)***	(1.46)***		(1.42)***	(1.48)***
Average attendance in 2006 (first visits)			1.48			1.56
			(0.21)***			(0.22)***
Average attendance in 2006 (total)			−0.46			−0.50
			(0.15)***			(0.15)***
Prenatal enrollment fee (in Ksh)			−0.77			−0.54
			(0.27)**			(0.32)
ANC clinic offers HIV testing services			14.08			7.07
			(7.44)*			(7.65)
Distance to the closest ANC clinic			−1.08			−1.84
			(0.77)			(0.68)**
Distance to the closest ANC clinic in the sample			−8.85			−9.63
			(2.89)***			(2.70)***
Observations (clinic-weeks)	90	90	90	90	90	90
R^2	.13	.21	.64	.14	.23	.65
Mean of dep. var. in clinics with free ITNs	41.03					

Notes: Each column is an OLS regression of weekly ITN sales on ITN price or on a set of indicator variables for each price (0 Ksh is excluded). All regressions include district fixed effects. The sample includes fifteen clinics in three districts over six weeks after program introduction. (One 40 Ksh clinic is not included because of problems with net sales reporting.) Standard errors in parentheses are clustered at the clinic level. Given the small number of clusters (fifteen), the critical values for T-tests were drawn from a t-distribution with 13 (15 − 2) degrees of freedom.

***, **, * Significance at 1%, 5%, and 10% levels, respectively.

Figure 2: **Cohen and Dupas (2010): Main results II**



End of Appendix.