Written Answers

Part 1

Question 3a)

Lorenz Curve by Country-Year

Graphs by Country and Year
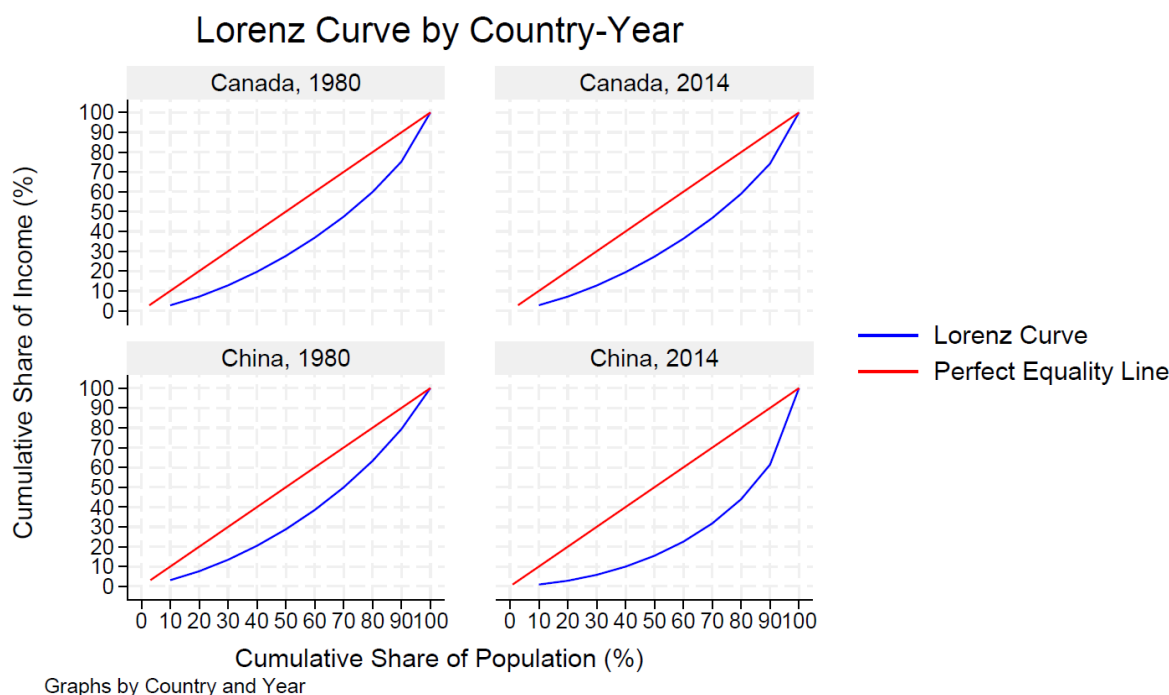
Across countries:

In 1980 Canada had a slightly larger income inequality than China. For example, if you look at China's 70th percent of population, it holds a little over 50% of the income. In contrast to Canada at the 70th percent of population, it holds a little under 50% of the income.

In 2014 China had a larger income inequality than Canada. For example, if you look at China's 90th percent of population, it holds a little over 50% of the income. In contrast to Canada at the 90th percent of population, it holds around 70% of the income.

Across periods:

Canada: From 1980 to 2014, the Lorenz curve doesn't seem to change that much, indicating that income inequality hasn't changed much. For example, in 1980, 90% of the population owned roughly 75% of the total income. In 2014, the number doesn't change.

China: From 1980 to 2014, the Lorenz curve indicates that inequality increased, as demonstrated by the deviation from the perfect equality line. For example, in 1980, 90% of

the population controlled roughly 80% of the total income. In 2014, 90% of the population controlled roughly 60%.

Part 2

Question 1b)

Source	SS	df	MS			
Model	14.9926947	3	4.99756491			
Residual	301.127911	759	.396742966			
Total	316.120606	762	.414856438			

Number of obs	=	763				
F(3, 759)	=	12.60				
Prob > F	=	0.0000				
R-squared	=	0.0474				
Adj R-squared	=	0.0437				
Root MSE	=	.62988				

mealprice	Coefficient	Std. err.	t	P>|t|	[95% conf. interval]	
state	.3086927	.0805978	3.83	0.000	.1504716	.4669137
time	-.0157487	.1039626	-0.15	0.880	-.2198372	.1883398
stateXtime	.0794417	.1156924	0.69	0.493	-.1476734	.3065568
_cons	3.042368	.0722517	42.11	0.000	2.900532	3.184205

The Difference-in-differences estimate is the coefficient on the interaction variable. Thus, the DID estimate is .0794417.

Interpretation: For states with an increase in minimum wage, the price of a meal (fries + drink + entree) increased by $0.079 on average as compared to states with no increase in minimum wage. However, the p-value is > 0.05, we cannot say that the result is statistically significant.

Question 2a)

Jewish institutio n one block distant	after		Total
	0	1	
0	.08146853	.10300699	.09343434
1	.08385093	.09627329	.09075224
Total	.08190639	.10176941	.0929414

Thefts	Before	After	Difference (within group)
Treatment Group: jewish institution within one block	0.08146853	0.10300699	(.103-.081) = .023
Control group: jewish institution not within one block	0.08385093	.09627329	(0.096-.084) = .013
Difference (within period)	(0.081-0.084) = -0.003	(0.103-.096)=0.007	(0.007-(-.003) = 0.01

Question 2c)

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      Source |       SS           df       MS      Number of obs   =     7,008
-------------+----------------------------------   F(5, 7002)      =      3.28
       Model |  1.0231488          5   .20462976   Prob > F        =    0.0058
    Residual |  436.568024      7,002  .062349047   R-squared       =    0.0023
-------------+----------------------------------   Adj R-squared   =    0.0016
       Total |  437.591173      7,007  .062450574   Root MSE        =     .2497
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         thefts | Coefficient  Std. err.      t    P>|t|     [95% conf. interval]
----------------+----------------------------------------------------------------
      sameblock |   .0167424   .0243384     0.69   0.492    -.0309682     .064453
       oneblock |  -.0037377   .0126388    -0.30   0.767    -.0285137    .0210383
          after |   .0108407   .0070032     1.55   0.122    -.0028878    .0245692
 sameblockXafter|  -.0883182   .0307859    -2.87   0.004    -.1486678   -.0279685
 oneblockXafter |  -.0066999    .015987    -0.42   0.675    -.0380393    .0246395
          _cons |   .0958702   .0055366    17.32   0.000     .0850169    .1067235
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Interpretation: The coefficient on the first treatment group interaction term (sameblockXafter) is -0.088 and the coefficient on the second treatment group interaction term (oneblockXafter) is -0.006. We can see that on average, after the attack, a police presence within the same block and one block roughly decreases thefts by -0.088 and -0.006 respectively.

However, the p-value for the (oneblockXafter) term is greater than 0.05 so the result is not statistically significant. Therefore, the deterrence effect does not extend beyond the same block.