

Problem 2

Summary of all the Results

Note: Please check the appendix section for detail results and code.

Table 1: Constant Kernel Estimation

Kernel	Bandwidths					
	0.1		0.05		0.01	
Bounds	Upper	lower	upper	lower	upper	lower
Uniform	0.215(0.000)	0.125(0.000)	0.195(0.000)	0.147(0.000)	0.169(0.000)	0.173(0.000)
Epanechnikov	0.204(0.000)	0.135(0.000)	0.193(0.000)	0.156(0.000)	0.174(0.000)	0.179(0.000)

The values inside the bracket are the probabilities

Table 2: Sum of all Fitted Values Across Bandwidths (Constant Kernel Estimation)

Variable	Obs	Mean	Std. Dev.	Min	Max
est11	921	.0897364	0	.0897364	.0897364
est12	921	.0476887	0	.0476887	.0476887
est13	921	-.0046803	0	-.0046803	-.0046803
est21	921	.0687878	0	.0687878	.0687878
est22	921	.0365899	0	.0365899	.0365899
est23	921	-.0053187	0	-.0053187	-.0053187

Note: Table 1 and 2 here shows the summary of table 1-13 in the appendix section.

Table 3: Local Linear Regression

Uniform Kernel	Bandwidths					
	0.1		0.05		0.01	
Bounds	Upper	lower	upper	lower	upper	lower
Constants	-0.014(0.817)	-0.037(0.116)	0.103(0.474)	-0.087(0.281)	1.0845(0.439)	-1.190(0.437)
x	0.920(0.000)	1.054(0.000)	0.405(0.522)	1.343(0.005)	-4.458(0.510)	6.986(0.377)
Epanechnikov Kernal	0.1		0.05		0.01	
Bounds	Upper	lower	upper	lower	upper	lower
Constants	0.041(0.541)	-0.062(0.055)	0.094(0.584)	-0.072(0.523)	2.053(0.166)	-2.588(0.248)
x	0.684(0.012)	1.204(0.000)	0.450(0.553)	1.267(0.051)	-9.210(0.198)	14.077(0.221)

The values inside the bracket are the probabilities

Table 4: Sum of all Fitted Values Across Bandwidths (Local linear Regression)

Variable	Obs	Mean	Std. Dev.	Min	Max
est31	921	-.0163069	.0232397	-.1108574	.0229568
est32	921	-.0848805	.162822	-.747319	.1902084
est33	921	-1.080706	1.985959	-9.160547	2.274585
est41	921	-.0491685	.0903167	-.4166204	.1034222
est42	921	-.0727467	.1417962	-.6496423	.166819
est43	921	-2.187053	4.041139	-18.62836	4.64048

Note: Table 3 and 4 here show the summary of table 14-26 in the appendix section.

Table 5: Polynomial Estimates of Treatment from the Data

	Degree				
	Linear	quadratic	quartic	x^6	x^8
No interactions	0.0399(0.001)	-0.0028(0.852)	-0.0245(0.119)	-0.00810(0.681)	-0.0079(0.690)
Interactions	0.0321(0.021)	-0.01025(0.706)	-0.0156(0.626)	-0.00051(0.988)	-0.00566(0.878)

The values inside the bracket are the probabilities

Note: Table 5 here show the summary of table 27-36 in the appendix section.

Comparison of the Results

From Table 5, we can see that the treatment effect for all of the estimation methods are zero as the estimated values are close to zero.