Estimation Results of Sub-models

March 25, 2014

1   Model Specifications

This document presents the estimation results of all sub-models. The five types of models include the baseline model and four spatial models. The baseline model is a dynamic panel data model such that:

$$\ln c_{i,t} = \rho \ln c_{i,t-1} + x'_{i,t}\beta + \lambda t + \alpha_i + \epsilon_{i,t}. \tag{1}$$

In this form, $c_{i,t}$ is carbon intensity, $x_{i,t}$ is a vector of additional explanatory variables (including *Inc*, *Ind*, *Popden*, *Car*), t is a trend variable represented by the linear time trend (T) or the logarithm time trend ($\ln T$), α_i is a provincial fixed effect, and $\epsilon_{i,t}$ is an error term.

Starting from the baseline model, we first include the one-period lagged spatial spillover effects. This model is labeled as S_{lag}:

$$\ln c_{i,t} = \rho \ln c_{i,t-1} + \gamma \sum_{j \neq i} w_{i,j} \ln c_{j,t-1} + x'_{i,t}\beta + \lambda t + \alpha_i + \epsilon_{i,t}. \tag{2}$$

The i,j-th element of W, $w_{i,j}$, is the weight given to region i's neighbor j. We employ two spatial matrices: the rook contiguity weight matrix and the inverse distance matrix.

In addition, we allow for group-specific spillover effects between eastern provinces and inland provinces, because eastern provinces are more developed and technologically advanced.[1] The trend variable t is also allowed to be different between the two groups of provinces. This model is labeled as S_{lag-g}:

$$\ln c_{i,t} = \rho \ln c_{i,t-1} + \sum_{g=1}^{2} \sum_{j \neq i} \gamma^g w_{i,j}^g \ln c_{j,t-1} + x'_{i,t}\beta + \sum_{g=1}^{2} \lambda^g t^g + \alpha_i + \epsilon_{i,t}. \tag{3}$$

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[1]Eastern provinces include Beijing, Tianjin, Hebei, Liaoning, Shanghai, Jiangsu, Zhejiang, Fujian, Shandong, Guangdong, and Hainan. Inland provinces include the rest 19 provinces.

In this form, g indexes province (1 for eastern provinces and 2 for inland provinces); $w_{i,j}^g$ is an element of the group-specific spatial weight matrix W^g, which is the product of the spatial weight matrix W and a dummy variable indicating whether province i belongs to group g; t^g is a group-specific trend, which equals T or $\ln T$ if province i belongs to group g and zero otherwise.

We also consider a specification with contemporaneous spatial spillover effects, which is labeled as S_{con}:

$$\ln c_{i,t} = \rho \ln c_{i,t-1} + \varphi \sum_{j \neq i} w_{i,j} \ln c_{j,t} + x'_{i,t}\beta + \lambda t + \alpha_i + \epsilon_{i,t}. \tag{4}$$

Moreover, we introduce the group-specific spillover effects in model S_{con}, and derive the model that is labeled as S_{con-g}:

$$\ln c_{i,t} = \rho \ln c_{i,t-1} + \sum_{g=1}^{2} \sum_{j \neq i} \varphi^g w_{i,j}^g \ln c_{j,t} + x'_{i,t}\beta + \sum_{g=1}^{2} \lambda^g t^g + \alpha_i + \epsilon_{i,t}. \tag{5}$$

2 Model Indexes

We have five types of models including one baseline and four spatial models. Within each type of model, we can derive a number of variations by selecting different combinations of explanatory variables x and time trend. We denote each variation within a certain type of model as a sub-model. For example, for each type of model, the explanatory variables x can be any combination from the four variables including *Inc*, *Ind*, *Popden*, *Car*, and the trend variable t can be the linear time trend (T), the logarithm time trend ($\ln T$) or none. Therefore there are 48 ($= 2^4 \times 3$) sub-models for each type of model and 240 ($= 48 \times 5$) sub-models in total.

Here we index the 48 sub-models within each type of model to facilitate the presentation of estimation results (Table 2.1).

In the following text, we present the estimation results of all sub-models. The third section corresponds to the baseline model. The next eight sections present the estimation results of four spatial models. Because we use two spatial matrices, the estimation results for each type of spatial model are presented in two sections.

Table 2.1: Model Indexes

	No trend	Logarithm trend	Linear trend
Explanatory variables x:			
-	1	17	33
Car	2	18	34
Ind	3	19	35
Ind Car	4	20	36
Popden	5	21	37
Popden Car	6	22	38
Popden Ind	7	23	39
Popden Ind Car	8	24	40
Inc	9	25	41
Inc Car	10	26	42
Inc Ind	11	27	43
Inc Ind Car	12	28	44
Inc Popden	13	29	45
Inc Popden Car	14	30	46
Inc Popden Ind	15	31	47
Inc Popden Ind Car	16	32	48

3 Baseline model results

Table 3.1: Model 1

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.982	0.008	128.234	0.000

Sargan(p-Value): 29.96(1.00)
AR(1)(p-Value): -3.78(0.00)
AR(2)(p-Value): 0.40(0.35)

Table 3.2: Model 2

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.957	0.021	45.724	0.000
Car	-0.011	0.008	-1.365	0.172

Sargan(p-Value): 28.98(1.00)
AR(1)(p-Value): -3.83(0.00)
AR(2)(p-Value): 0.39(0.35)

Table 3.3: Model 3

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.961	0.022	42.892	0.000
Ind	-0.061	0.053	-1.149	0.250

Sargan(p-Value): 28.95(1.00)
AR(1)(p-Value): -3.78(0.00)
AR(2)(p-Value): 0.39(0.35)

Table 3.4: Model 4

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.958	0.022	43.970	0.000
Ind	-0.027	0.092	-0.294	0.769
Car	-0.007	0.015	-0.469	0.639

Sargan(p-Value): 28.86(1.00)
AR(1)(p-Value): -3.84(0.00)
AR(2)(p-Value): 0.38(0.35)

Table 3.5: Model 5

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.877	0.021	41.346	0.000
Popden	-0.504	0.088	-5.696	0.000

Sargan(p-Value): 29.31(1.00)
AR(1)(p-Value): -3.79(0.00)
AR(2)(p-Value): 0.40(0.34)

Table 3.6: Model 6

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.891	0.024	36.893	0.000
Popden	-0.534	0.103	-5.184	0.000
Car	0.009	0.012	0.823	0.411

Sargan(p-Value): 28.89(1.00)
AR(1)(p-Value): -3.85(0.00)
AR(2)(p-Value): 0.41(0.34)

Table 3.7: Model 7

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.884	0.026	34.380	0.000
Popden	-0.522	0.090	-5.774	0.000
Ind	0.031	0.054	0.577	0.564

Sargan(p-Value): 28.84(1.00)

AR(1)(p-Value): -3.78(0.00)
AR(2)(p-Value): 0.40(0.34)

Table 3.8: Model 8

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.891	0.025	36.160	0.000
Popden	-0.536	0.101	-5.297	0.000
Ind	-0.018	0.091	-0.202	0.840
Car	0.013	0.020	0.651	0.515

Sargan(p-Value): 28.76(1.00)
AR(1)(p-Value): -3.86(0.00)
AR(2)(p-Value): 0.40(0.35)

Table 3.9: Model 9

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.904	0.031	29.498	0.000
Inc	-0.040	0.014	-2.931	0.003

Sargan(p-Value): 29.21(1.00)
AR(1)(p-Value): -3.87(0.00)
AR(2)(p-Value): 0.42(0.34)

Table 3.10: Model 10

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.845	0.036	23.323	0.000
Inc	-0.222	0.038	-5.848	0.000
Car	0.136	0.025	5.438	0.000

Sargan(p-Value): 28.61(1.00)
AR(1)(p-Value): -3.92(0.00)
AR(2)(p-Value): 0.57(0.29)

Table 3.11: Model 11

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.906	0.030	30.282	0.000
Inc	-0.039	0.024	-1.590	0.112
Ind	-0.002	0.104	-0.019	0.985

Sargan(p-Value): 29.09(1.00)
AR(1)(p-Value): -3.92(0.00)
AR(2)(p-Value): 0.40(0.34)

Table 3.12: Model 12

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.849	0.036	23.482	0.000
Inc	-0.217	0.043	-5.061	0.000
Ind	-0.009	0.110	-0.082	0.934
Car	0.135	0.025	5.326	0.000

Sargan(p-Value): 28.17(1.00)
AR(1)(p-Value): -3.95(0.00)
AR(2)(p-Value): 0.55(0.29)

Table 3.13: Model 13

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.853	0.030	27.984	0.000
Inc	-0.009	0.018	-0.520	0.603
Popden	-0.534	0.106	-5.024	0.000

Sargan(p-Value): 28.90(1.00)
AR(1)(p-Value): -3.89(0.00)
AR(2)(p-Value): 0.41(0.34)

Table 3.14: Model 14

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.800	0.032	24.949	0.000
Inc	-0.182	0.037	-4.979	0.000
Popden	-0.513	0.121	-4.253	0.000
Car	0.129	0.023	5.704	0.000

Sargan(p-Value): 28.20(1.00)
AR(1)(p-Value): -3.91(0.00)
AR(2)(p-Value): 0.55(0.29)

Table 3.15: Model 15

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.856	0.031	27.975	0.000
Inc	-0.006	0.032	-0.189	0.850
Popden	-0.535	0.107	-4.998	0.000
Ind	-0.010	0.104	-0.099	0.921

Sargan(p-Value): 28.85(1.00)
AR(1)(p-Value): -3.95(0.00)
AR(2)(p-Value): 0.40(0.35)

Table 3.16: Model 16

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.804	0.033	24.480	0.000
Inc	-0.176	0.044	-3.987	0.000
Popden	-0.515	0.121	-4.259	0.000
Ind	-0.016	0.110	-0.143	0.886
Car	0.127	0.023	5.547	0.000

Sargan(p-Value): 28.04(1.00)
AR(1)(p-Value): -3.95(0.00)
AR(2)(p-Value): 0.53(0.30)

Table 3.17: Model 17

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.855	0.022	39.735	0.000
lnT	-0.067	0.008	-8.044	0.000

Sargan(p-Value): 29.78(1.00)
AR(1)(p-Value): -3.78(0.00)
AR(2)(p-Value): 0.40(0.34)

Table 3.18: Model 18

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.867	0.023	37.363	0.000
Car	0.007	0.008	0.869	0.385
lnT	-0.069	0.009	-7.566	0.000

Sargan(p-Value): 28.49(1.00)
AR(1)(p-Value): -3.82(0.00)
AR(2)(p-Value): 0.41(0.34)

Table 3.19: Model 19

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.867	0.024	36.870	0.000
Ind	0.055	0.043	1.279	0.201
lnT	-0.070	0.009	-7.875	0.000

Sargan(p-Value): 29.15(1.00)
AR(1)(p-Value): -3.76(0.00)
AR(2)(p-Value): 0.40(0.34)

Table 3.20: Model 20

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.866	0.023	37.193	0.000
Ind	0.069	0.082	0.838	0.402
Car	-0.003	0.016	-0.173	0.862
lnT	-0.070	0.009	-7.709	0.000

Sargan(p-Value): 28.54(1.00)
AR(1)(p-Value): -3.82(0.00)
AR(2)(p-Value): 0.40(0.35)

Table 3.21: Model 21

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.841	0.022	38.449	0.000
Popden	-0.190	0.083	-2.292	0.022
lnT	-0.053	0.010	-5.296	0.000

Sargan(p-Value): 29.38(1.00)
AR(1)(p-Value): -3.75(0.00)
AR(2)(p-Value): 0.40(0.34)

Table 3.22: Model 22

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.858	0.022	38.279	0.000
Popden	-0.222	0.089	-2.506	0.012
Car	0.012	0.010	1.181	0.237
lnT	-0.055	0.010	-5.586	0.000

Sargan(p-Value): 29.55(1.00)
AR(1)(p-Value): -3.81(0.00)
AR(2)(p-Value): 0.40(0.34)

Table 3.23: Model 23

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.855	0.023	36.961	0.000
Popden	-0.211	0.078	-2.717	0.007
Ind	0.069	0.044	1.565	0.118
lnT	-0.056	0.011	-5.295	0.000

Sargan(p-Value): 28.85(1.00)
AR(1)(p-Value): -3.74(0.00)
AR(2)(p-Value): 0.40(0.34)

Table 3.24: Model 24

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.858	0.023	37.894	0.000
Popden	-0.214	0.090	-2.372	0.018
Ind	0.057	0.081	0.713	0.476
Car	0.003	0.017	0.200	0.842
lnT	-0.056	0.010	-5.505	0.000

Sargan(p-Value): 28.80(1.00)
AR(1)(p-Value): -3.82(0.00)
AR(2)(p-Value): 0.40(0.35)

Table 3.25: Model 25

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.837	0.028	30.434	0.000
Inc	-0.012	0.014	-0.861	0.389
lnT	-0.064	0.010	-6.554	0.000

Sargan(p-Value): 28.82(1.00)
AR(1)(p-Value): -3.84(0.00)
AR(2)(p-Value): 0.41(0.34)

Table 3.26: Model 26

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.785	0.030	26.303	0.000
Inc	-0.181	0.036	-5.051	0.000
Car	0.127	0.023	5.427	0.000
lnT	-0.063	0.011	-5.683	0.000

Sargan(p-Value): 28.19(1.00)
AR(1)(p-Value): -3.88(0.00)
AR(2)(p-Value): 0.54(0.30)

Table 3.27: Model 27

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.828	0.029	28.872	0.000
Inc	-0.031	0.026	-1.180	0.238
Ind	0.092	0.098	0.937	0.349
lnT	-0.066	0.010	-6.672	0.000

Sargan(p-Value): 28.84(1.00)
AR(1)(p-Value): -3.89(0.00)
AR(2)(p-Value): 0.40(0.34)

Table 3.28: Model 28

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.777	0.032	24.196	0.000
Inc	-0.196	0.043	-4.575	0.000
Ind	0.085	0.102	0.832	0.406
Car	0.124	0.023	5.447	0.000
lnT	-0.065	0.011	-5.964	0.000

Sargan(p-Value): 28.07(1.00)
AR(1)(p-Value): -3.90(0.00)
AR(2)(p-Value): 0.51(0.30)

Table 3.29: Model 29

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.829	0.027	30.919	0.000
Inc	-0.004	0.016	-0.224	0.823
Popden	-0.273	0.088	-3.115	0.002
lnT	-0.047	0.010	-4.605	0.000

Sargan(p-Value): 29.36(1.00)
AR(1)(p-Value): -3.85(0.00)
AR(2)(p-Value): 0.41(0.34)

Table 3.30: Model 30

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.778	0.029	27.210	0.000
Inc	-0.171	0.036	-4.727	0.000
Popden	-0.256	0.112	-2.281	0.023
Car	0.125	0.023	5.531	0.000
lnT	-0.047	0.011	-4.401	0.000

Sargan(p-Value): 28.08(1.00)
AR(1)(p-Value): -3.87(0.00)
AR(2)(p-Value): 0.53(0.30)

Table 3.31: Model 31

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.822	0.028	29.079	0.000
Inc	-0.021	0.030	-0.698	0.485
Popden	-0.255	0.094	-2.712	0.007
Ind	0.079	0.098	0.803	0.422
lnT	-0.050	0.011	-4.732	0.000

Sargan(p-Value): 28.93(1.00)
AR(1)(p-Value): -3.90(0.00)

AR(2)(p-Value): 0.40(0.34)

Table 3.32: Model 32

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.772	0.031	24.659	0.000
Inc	-0.184	0.044	-4.140	0.000
Popden	-0.239	0.112	-2.141	0.032
Ind	0.074	0.102	0.722	0.470
Car	0.123	0.022	5.517	0.000
lnT	-0.049	0.010	-4.709	0.000

Sargan(p-Value): 28.06(1.00)
AR(1)(p-Value): -3.90(0.00)
AR(2)(p-Value): 0.51(0.31)

Table 3.33: Model 33

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.888	0.025	35.746	0.000
T	-0.004	0.001	-4.782	0.000

Sargan(p-Value): 29.03(1.00)
AR(1)(p-Value): -3.86(0.00)
AR(2)(p-Value): 0.39(0.35)

Table 3.34: Model 34

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.806	0.029	27.533	0.000
Car	0.102	0.020	4.976	0.000
T	-0.019	0.003	-6.397	0.000

Sargan(p-Value): 29.06(1.00)
AR(1)(p-Value): -3.76(0.00)
AR(2)(p-Value): 0.41(0.34)

Table 3.35: Model 35

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.860	0.029	29.283	0.000
Ind	0.171	0.080	2.134	0.033
T	-0.009	0.002	-3.905	0.000

Sargan(p-Value): 29.17(1.00)
AR(1)(p-Value): -3.91(0.00)

AR(2)(p-Value): 0.37(0.36)

Table 3.36: Model 36

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.800	0.031	25.520	0.000
Ind	0.045	0.087	0.511	0.609
Car	0.099	0.023	4.232	0.000
T	-0.019	0.003	-6.637	0.000

Sargan(p-Value): 28.88(1.00)
AR(1)(p-Value): -3.81(0.00)
AR(2)(p-Value): 0.39(0.35)

Table 3.37: Model 37

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.889	0.026	33.741	0.000
Popden	-0.486	0.119	-4.099	0.000
T	0.000	0.002	0.248	0.804

Sargan(p-Value): 28.92(1.00)
AR(1)(p-Value): -3.92(0.00)
AR(2)(p-Value): 0.40(0.35)

Table 3.38: Model 38

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.832	0.031	27.128	0.000
Popden	-0.324	0.120	-2.706	0.007
Car	0.071	0.019	3.709	0.000
T	-0.011	0.003	-3.681	0.000

Sargan(p-Value): 28.38(1.00)
AR(1)(p-Value): -3.84(0.00)
AR(2)(p-Value): 0.41(0.34)

Table 3.39: Model 39

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.872	0.031	28.284	0.000
Popden	-0.452	0.134	-3.366	0.001
Ind	0.103	0.079	1.301	0.193
T	-0.002	0.003	-0.761	0.447

Sargan(p-Value): 28.88(1.00)
AR(1)(p-Value): -3.98(0.00)

AR(2)(p-Value): 0.39(0.35)

Table 3.40: Model 40

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.827	0.033	25.128	0.000
Popden	-0.318	0.125	-2.536	0.011
Ind	0.034	0.083	0.415	0.678
Car	0.069	0.021	3.358	0.001
T	-0.012	0.003	-3.501	0.000

Sargan(p-Value): 28.37(1.00)
AR(1)(p-Value): -3.89(0.00)
AR(2)(p-Value): 0.40(0.35)

Table 3.41: Model 41

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.880	0.025	35.168	0.000
Inc	0.050	0.048	1.034	0.301
T	-0.009	0.005	-1.888	0.059

Sargan(p-Value): 29.02(1.00)
AR(1)(p-Value): -3.80(0.00)
AR(2)(p-Value): 0.35(0.36)

Table 3.42: Model 42

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.816	0.029	28.342	0.000
Inc	-0.131	0.071	-1.841	0.066
Car	0.139	0.023	6.130	0.000
T	-0.010	0.006	-1.742	0.081

Sargan(p-Value): 28.55(1.00)
AR(1)(p-Value): -3.77(0.00)
AR(2)(p-Value): 0.50(0.31)

Table 3.43: Model 43

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.879	0.027	32.451	0.000
Inc	0.055	0.054	1.018	0.309
Ind	0.001	0.098	0.006	0.995
T	-0.010	0.005	-2.097	0.036

Sargan(p-Value): 28.91(1.00)
AR(1)(p-Value): -3.88(0.00)

AR(2)(p-Value): 0.34(0.37)

Table 3.44: Model 44

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.816	0.032	25.425	0.000
Inc	-0.122	0.075	-1.618	0.106
Ind	-0.012	0.102	-0.114	0.909
Car	0.138	0.023	6.119	0.000
T	-0.011	0.006	-1.914	0.056

Sargan(p-Value): 28.18(1.00)
AR(1)(p-Value): -3.83(0.00)
AR(2)(p-Value): 0.48(0.32)

Table 3.45: Model 45

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.912	0.028	33.030	0.000
Inc	-0.067	0.059	-1.132	0.258
Popden	-0.621	0.154	-4.047	0.000
T	0.009	0.007	1.315	0.189

Sargan(p-Value): 29.00(1.00)
AR(1)(p-Value): -3.84(0.00)
AR(2)(p-Value): 0.44(0.33)

Table 3.46: Model 46

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.850	0.031	27.579	0.000
Inc	-0.228	0.071	-3.217	0.001
Popden	-0.580	0.142	-4.075	0.000
Car	0.129	0.023	5.506	0.000
T	0.007	0.006	1.110	0.267

Sargan(p-Value): 28.04(1.00)
AR(1)(p-Value): -3.83(0.00)
AR(2)(p-Value): 0.58(0.28)

Table 3.47: Model 47

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.904	0.029	30.743	0.000
Inc	-0.077	0.062	-1.246	0.213
Popden	-0.618	0.158	-3.917	0.000
Ind	0.060	0.093	0.644	0.520
T	0.009	0.007	1.298	0.194

Sargan(p-Value): 28.22(1.00)
AR(1)(p-Value): -3.90(0.00)
AR(2)(p-Value): 0.44(0.33)

Table 3.48: Model 48

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.844	0.034	25.179	0.000
Inc	-0.231	0.073	-3.158	0.002
Popden	-0.575	0.142	-4.040	0.000
Ind	0.045	0.098	0.456	0.649
Car	0.127	0.023	5.507	0.000
T	0.007	0.006	1.061	0.288

Sargan(p-Value): 28.06(1.00)
AR(1)(p-Value): -3.88(0.00)
AR(2)(p-Value): 0.56(0.29)

4 S_{lag} model using inverse distance matrix

Table 4.1: Model 1

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.555	0.075	7.388	0.000
γ	0.443	0.073	6.070	0.000

Sargan(p-Value): 29.88(1.00)
AR(1)(p-Value): -3.26(0.00)
AR(2)(p-Value): 0.20(0.42)

Table 4.2: Model 2

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.557	0.074	7.540	0.000
γ	0.434	0.077	5.602	0.000
Car	-0.003	0.017	-0.165	0.869

Sargan(p-Value): 28.37(1.00)

AR(1)(p-Value): -3.26(0.00)
AR(2)(p-Value): 0.21(0.42)

Table 4.3: Model 3

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.541	0.074	7.279	0.000
γ	0.443	0.077	5.741	0.000
Ind	-0.037	0.078	-0.468	0.640

Sargan(p-Value): 28.56(1.00)
AR(1)(p-Value): -3.19(0.00)
AR(2)(p-Value): 0.21(0.42)

Table 4.4: Model 4

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.548	0.075	7.332	0.000
γ	0.443	0.078	5.671	0.000
Ind	-0.060	0.104	-0.580	0.562
Car	0.007	0.026	0.261	0.794

Sargan(p-Value): 28.29(1.00)
AR(1)(p-Value): -3.23(0.00)
AR(2)(p-Value): 0.22(0.41)

Table 4.5: Model 5

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.569	0.073	7.772	0.000
γ	0.349	0.075	4.629	0.000
Popden	-0.368	0.134	-2.744	0.006

Sargan(p-Value): 28.74(1.00)
AR(1)(p-Value): -3.28(0.00)
AR(2)(p-Value): 0.24(0.41)

Table 4.6: Model 6

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.587	0.072	8.149	0.000
γ	0.348	0.074	4.713	0.000
Popden	-0.403	0.165	-2.447	0.014
Car	0.011	0.020	0.570	0.569

Sargan(p-Value): 28.24(1.00)
AR(1)(p-Value): -3.37(0.00)

AR(2)(p-Value): 0.26(0.40)

Table 4.7: Model 7

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.569	0.072	7.923	0.000
γ	0.354	0.076	4.638	0.000
Popden	-0.381	0.150	-2.535	0.011
Ind	0.025	0.086	0.289	0.773

Sargan(p-Value): 28.37(1.00)
AR(1)(p-Value): -3.27(0.00)
AR(2)(p-Value): 0.23(0.41)

Table 4.8: Model 8

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.578	0.072	7.979	0.000
γ	0.357	0.075	4.796	0.000
Popden	-0.402	0.170	-2.364	0.018
Ind	-0.051	0.102	-0.503	0.615
Car	0.020	0.029	0.688	0.491

Sargan(p-Value): 28.11(1.00)
AR(1)(p-Value): -3.33(0.00)
AR(2)(p-Value): 0.26(0.40)

Table 4.9: Model 9

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.505	0.082	6.177	0.000
γ	0.450	0.089	5.045	0.000
Inc	-0.022	0.025	-0.889	0.374

Sargan(p-Value): 28.71(1.00)
AR(1)(p-Value): -3.04(0.00)
AR(2)(p-Value): 0.19(0.42)

Table 4.10: Model 10

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.497	0.084	5.931	0.000
γ	0.409	0.088	4.639	0.000
Inc	-0.162	0.037	-4.367	0.000
Car	0.104	0.027	3.909	0.000

Sargan(p-Value): 27.98(1.00)
AR(1)(p-Value): -2.97(0.00)

AR(2)(p-Value): 0.35(0.36)

Table 4.11: Model 11

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.503	0.083	6.065	0.000
γ	0.460	0.089	5.139	0.000
Inc	-0.006	0.045	-0.143	0.887
Ind	-0.066	0.125	-0.523	0.601

Sargan(p-Value): 28.43(1.00)
AR(1)(p-Value): -3.04(0.00)
AR(2)(p-Value): 0.19(0.42)

Table 4.12: Model 12

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.496	0.085	5.841	0.000
γ	0.419	0.087	4.790	0.000
Inc	-0.145	0.055	-2.658	0.008
Ind	-0.062	0.128	-0.482	0.630
Car	0.102	0.026	3.898	0.000

Sargan(p-Value): 27.43(1.00)
AR(1)(p-Value): -2.96(0.00)
AR(2)(p-Value): 0.35(0.36)

Table 4.13: Model 13

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.535	0.080	6.659	0.000
γ	0.375	0.083	4.507	0.000
Inc	-0.002	0.030	-0.059	0.953
Popden	-0.398	0.176	-2.255	0.024

Sargan(p-Value): 28.58(1.00)
AR(1)(p-Value): -3.18(0.00)
AR(2)(p-Value): 0.23(0.41)

Table 4.14: Model 14

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.527	0.083	6.371	0.000
γ	0.334	0.083	4.019	0.000
Inc	-0.142	0.039	-3.675	0.000
Popden	-0.395	0.188	-2.099	0.036
Car	0.104	0.026	3.986	0.000

Sargan(p-Value): 27.93(1.00)
AR(1)(p-Value): -3.09(0.00)
AR(2)(p-Value): 0.37(0.35)

Table 4.15: Model 15

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.533	0.081	6.552	0.000
γ	0.384	0.083	4.613	0.000
Inc	0.014	0.049	0.282	0.778
Popden	-0.397	0.181	-2.193	0.028
Ind	-0.064	0.124	-0.521	0.602

Sargan(p-Value): 28.22(1.00)
AR(1)(p-Value): -3.18(0.00)
AR(2)(p-Value): 0.22(0.41)

Table 4.16: Model 16

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.525	0.083	6.299	0.000
γ	0.344	0.082	4.182	0.000
Inc	-0.125	0.055	-2.283	0.022
Popden	-0.395	0.193	-2.043	0.041
Ind	-0.060	0.126	-0.475	0.635
Car	0.103	0.026	3.934	0.000

Sargan(p-Value): 27.76(1.00)
AR(1)(p-Value): -3.09(0.00)
AR(2)(p-Value): 0.37(0.35)

Table 4.17: Model 17

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.554	0.078	7.137	0.000
γ	0.332	0.080	4.138	0.000
lnT	-0.056	0.014	-4.136	0.000

Sargan(p-Value): 29.50(1.00)
AR(1)(p-Value): -3.25(0.00)
AR(2)(p-Value): 0.24(0.40)

Table 4.18: Model 18

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.564	0.076	7.451	0.000
γ	0.345	0.082	4.214	0.000
Car	0.014	0.019	0.730	0.466
lnT	-0.060	0.017	-3.594	0.000

Sargan(p-Value): 28.12(1.00)
AR(1)(p-Value): -3.29(0.00)
AR(2)(p-Value): 0.25(0.40)

Table 4.19: Model 19

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.554	0.077	7.200	0.000
γ	0.351	0.085	4.157	0.000
Ind	0.079	0.078	1.011	0.312
lnT	-0.062	0.017	-3.686	0.000

Sargan(p-Value): 28.65(1.00)
AR(1)(p-Value): -3.23(0.00)
AR(2)(p-Value): 0.21(0.42)

Table 4.20: Model 20

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.558	0.078	7.182	0.000
γ	0.351	0.084	4.200	0.000
Ind	0.065	0.081	0.797	0.426
Car	0.004	0.025	0.173	0.862
lnT	-0.062	0.017	-3.709	0.000

Sargan(p-Value): 28.26(1.00)
AR(1)(p-Value): -3.26(0.00)
AR(2)(p-Value): 0.22(0.41)

Table 4.21: Model 21

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.555	0.078	7.112	0.000
γ	0.325	0.080	4.087	0.000
Popden	-0.064	0.198	-0.322	0.748
lnT	-0.052	0.017	-2.996	0.003

Sargan(p-Value): 28.79(1.00)
AR(1)(p-Value): -3.27(0.00)

AR(2)(p-Value): 0.24(0.40)

Table 4.22: Model 22

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.569	0.075	7.581	0.000
γ	0.334	0.081	4.150	0.000
Popden	-0.101	0.189	-0.535	0.593
Car	0.015	0.019	0.818	0.414
lnT	-0.054	0.018	-3.065	0.002

Sargan(p-Value): 28.16(1.00)
AR(1)(p-Value): -3.34(0.00)
AR(2)(p-Value): 0.25(0.40)

Table 4.23: Model 23

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.557	0.076	7.314	0.000
γ	0.342	0.083	4.095	0.000
Popden	-0.082	0.184	-0.447	0.655
Ind	0.084	0.076	1.094	0.274
lnT	-0.056	0.019	-2.905	0.004

Sargan(p-Value): 28.60(1.00)
AR(1)(p-Value): -3.26(0.00)
AR(2)(p-Value): 0.22(0.41)

Table 4.24: Model 24

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.563	0.077	7.310	0.000
γ	0.342	0.083	4.126	0.000
Popden	-0.090	0.183	-0.492	0.623
Ind	0.059	0.079	0.742	0.458
Car	0.007	0.025	0.274	0.784
lnT	-0.056	0.017	-3.269	0.001

Sargan(p-Value): 28.26(1.00)
AR(1)(p-Value): -3.32(0.00)
AR(2)(p-Value): 0.23(0.41)

Table 4.25: Model 25

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.540	0.079	6.820	0.000
γ	0.349	0.087	4.003	0.000
Inc	0.001	0.027	0.041	0.967
lnT	-0.057	0.018	-3.228	0.001

Sargan(p-Value): 28.18(1.00)
AR(1)(p-Value): -3.20(0.00)
AR(2)(p-Value): 0.23(0.41)

Table 4.26: Model 26

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.530	0.083	6.368	0.000
γ	0.311	0.090	3.476	0.001
Inc	-0.136	0.039	-3.485	0.000
Car	0.101	0.025	4.029	0.000
lnT	-0.057	0.018	-3.195	0.001

Sargan(p-Value): 27.86(1.00)
AR(1)(p-Value): -3.09(0.00)
AR(2)(p-Value): 0.37(0.36)

Table 4.27: Model 27

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.534	0.082	6.499	0.000
γ	0.349	0.087	3.997	0.000
Inc	-0.011	0.042	-0.253	0.800
Ind	0.056	0.105	0.538	0.591
lnT	-0.058	0.017	-3.369	0.001

Sargan(p-Value): 28.11(1.00)
AR(1)(p-Value): -3.15(0.00)
AR(2)(p-Value): 0.21(0.42)

Table 4.28: Model 28

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.524	0.088	5.986	0.000
γ	0.313	0.090	3.486	0.000
Inc	-0.145	0.053	-2.737	0.006
Ind	0.057	0.108	0.528	0.598
Car	0.099	0.025	3.908	0.000
lnT	-0.058	0.017	-3.333	0.001

Sargan(p-Value): 27.76(1.00)

AR(1)(p-Value): -3.02(0.00)
AR(2)(p-Value): 0.33(0.37)

Table 4.29: Model 29

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.545	0.079	6.876	0.000
γ	0.338	0.086	3.937	0.000
Inc	0.005	0.028	0.189	0.850
Popden	-0.154	0.177	-0.870	0.384
lnT	-0.048	0.018	-2.666	0.008

Sargan(p-Value): 28.16(1.00)
AR(1)(p-Value): -3.25(0.00)
AR(2)(p-Value): 0.24(0.41)

Table 4.30: Model 30

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.534	0.083	6.452	0.000
γ	0.301	0.087	3.449	0.001
Inc	-0.131	0.039	-3.320	0.001
Popden	-0.152	0.193	-0.790	0.429
Car	0.101	0.025	4.003	0.000
lnT	-0.047	0.017	-2.733	0.006

Sargan(p-Value): 27.87(1.00)
AR(1)(p-Value): -3.15(0.00)
AR(2)(p-Value): 0.37(0.36)

Table 4.31: Model 31

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.539	0.082	6.556	0.000
γ	0.340	0.087	3.922	0.000
Inc	-0.006	0.043	-0.136	0.892
Popden	-0.142	0.172	-0.826	0.409
Ind	0.052	0.104	0.503	0.615
lnT	-0.049	0.017	-2.957	0.003

Sargan(p-Value): 28.15(1.00)
AR(1)(p-Value): -3.20(0.00)
AR(2)(p-Value): 0.22(0.41)

Table 4.32: Model 32

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.529	0.087	6.065	0.000
γ	0.303	0.088	3.446	0.001
Inc	-0.140	0.053	-2.619	0.009
Popden	-0.140	0.187	-0.751	0.453
Ind	0.053	0.107	0.497	0.619
Car	0.099	0.026	3.885	0.000
lnT	-0.049	0.016	-3.035	0.002

Sargan(p-Value): 27.88(1.00)
AR(1)(p-Value): -3.08(0.00)
AR(2)(p-Value): 0.33(0.37)

Table 4.33: Model 33

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.661	0.091	7.274	0.000
γ	0.299	0.095	3.166	0.002
T	-0.001	0.002	-0.861	0.389

Sargan(p-Value): 29.13(1.00)
AR(1)(p-Value): -3.39(0.00)
AR(2)(p-Value): 0.28(0.39)

Table 4.34: Model 34

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.629	0.101	6.222	0.000
γ	0.253	0.102	2.475	0.013
Car	0.083	0.030	2.743	0.006
T	-0.014	0.004	-3.168	0.002

Sargan(p-Value): 28.91(1.00)
AR(1)(p-Value): -3.09(0.00)
AR(2)(p-Value): 0.31(0.38)

Table 4.35: Model 35

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.637	0.097	6.559	0.000
γ	0.298	0.097	3.066	0.002
Ind	0.158	0.074	2.129	0.033
T	-0.005	0.003	-1.918	0.055

Sargan(p-Value): 29.10(1.00)
AR(1)(p-Value): -3.26(0.00)

AR(2)(p-Value): 0.23(0.41)

Table 4.36: Model 36

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.619	0.105	5.880	0.000
γ	0.259	0.104	2.480	0.013
Ind	0.062	0.088	0.699	0.485
Car	0.078	0.035	2.226	0.026
T	-0.014	0.004	-3.392	0.001

Sargan(p-Value): 29.08(1.00)
AR(1)(p-Value): -3.06(0.00)
AR(2)(p-Value): 0.28(0.39)

Table 4.37: Model 37

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.703	0.088	8.033	0.000
γ	0.245	0.089	2.759	0.006
Popden	-0.397	0.159	-2.499	0.012
T	0.002	0.002	0.832	0.406

Sargan(p-Value): 29.18(1.00)
AR(1)(p-Value): -3.63(0.00)
AR(2)(p-Value): 0.31(0.38)

Table 4.38: Model 38

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.665	0.093	7.148	0.000
γ	0.230	0.096	2.384	0.017
Popden	-0.263	0.151	-1.745	0.081
Car	0.061	0.023	2.596	0.009
T	-0.008	0.003	-2.383	0.017

Sargan(p-Value): 28.12(1.00)
AR(1)(p-Value): -3.37(0.00)
AR(2)(p-Value): 0.32(0.37)

Table 4.39: Model 39

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.680	0.094	7.268	0.000
γ	0.251	0.092	2.724	0.006
Popden	-0.357	0.169	-2.117	0.034
Ind	0.111	0.072	1.534	0.125
T	-0.001	0.004	-0.293	0.770

Sargan(p-Value): 28.79(1.00)
AR(1)(p-Value): -3.54(0.00)
AR(2)(p-Value): 0.28(0.39)

Table 4.40: Model 40

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.654	0.098	6.685	0.000
γ	0.237	0.099	2.390	0.017
Popden	-0.253	0.154	-1.642	0.101
Ind	0.056	0.086	0.656	0.512
Car	0.056	0.027	2.043	0.041
T	-0.009	0.004	-2.518	0.012

Sargan(p-Value): 28.22(1.00)
AR(1)(p-Value): -3.34(0.00)
AR(2)(p-Value): 0.30(0.38)

Table 4.41: Model 41

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.682	0.088	7.743	0.000
γ	0.272	0.089	3.052	0.002
Inc	0.022	0.063	0.350	0.727
T	-0.004	0.007	-0.567	0.570

Sargan(p-Value): 29.06(1.00)
AR(1)(p-Value): -3.40(0.00)
AR(2)(p-Value): 0.28(0.39)

Table 4.42: Model 42

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.649	0.097	6.704	0.000
γ	0.239	0.099	2.418	0.016
Inc	-0.133	0.073	-1.838	0.066
Car	0.122	0.021	5.720	0.000
T	-0.005	0.007	-0.712	0.477

Sargan(p-Value): 28.45(1.00)

AR(1)(p-Value): -3.16(0.00)
AR(2)(p-Value): 0.43(0.34)

Table 4.43: Model 43

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.677	0.093	7.300	0.000
γ	0.275	0.091	3.029	0.002
Inc	0.022	0.075	0.289	0.772
Ind	0.015	0.107	0.139	0.889
T	-0.004	0.006	-0.631	0.528

Sargan(p-Value): 29.06(1.00)
AR(1)(p-Value): -3.40(0.00)
AR(2)(p-Value): 0.26(0.40)

Table 4.44: Model 44

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.646	0.102	6.310	0.000
γ	0.242	0.101	2.401	0.016
Inc	-0.129	0.081	-1.601	0.109
Ind	0.004	0.111	0.038	0.970
Car	0.121	0.022	5.599	0.000
T	-0.005	0.007	-0.781	0.435

Sargan(p-Value): 27.93(1.00)
AR(1)(p-Value): -3.14(0.00)
AR(2)(p-Value): 0.41(0.34)

Table 4.45: Model 45

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.749	0.082	9.143	0.000
γ	0.217	0.084	2.598	0.009
Inc	-0.075	0.057	-1.311	0.190
Popden	-0.557	0.131	-4.254	0.000
T	0.011	0.006	1.782	0.075

Sargan(p-Value): 28.83(1.00)
AR(1)(p-Value): -3.64(0.00)
AR(2)(p-Value): 0.38(0.35)

Table 4.46: Model 46

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.715	0.087	8.212	0.000
γ	0.188	0.091	2.069	0.039
Inc	-0.220	0.064	-3.441	0.001
Popden	-0.529	0.137	-3.867	0.000
Car	0.118	0.021	5.488	0.000
T	0.009	0.006	1.510	0.131

Sargan(p-Value): 27.13(1.00)
AR(1)(p-Value): -3.44(0.00)
AR(2)(p-Value): 0.53(0.30)

Table 4.47: Model 47

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.739	0.086	8.622	0.000
γ	0.221	0.085	2.594	0.009
Inc	-0.090	0.064	-1.404	0.160
Popden	-0.556	0.134	-4.152	0.000
Ind	0.072	0.100	0.718	0.473
T	0.011	0.006	1.863	0.062

Sargan(p-Value): 27.12(1.00)
AR(1)(p-Value): -3.65(0.00)
AR(2)(p-Value): 0.38(0.35)

Table 4.48: Model 48

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.705	0.092	7.664	0.000
γ	0.193	0.093	2.073	0.038
Inc	-0.228	0.069	-3.325	0.001
Popden	-0.526	0.136	-3.864	0.000
Ind	0.058	0.104	0.557	0.578
Car	0.115	0.022	5.328	0.000
T	0.009	0.006	1.546	0.122

Sargan(p-Value): 27.05(1.00)
AR(1)(p-Value): -3.43(0.00)
AR(2)(p-Value): 0.50(0.31)

5 S_{lag} model using rook contiguity matrix

Table 5.1: Model 1

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.707	0.044	16.027	0.000
γ	0.280	0.037	7.481	0.000

Sargan(p-Value): 29.89(1.00)
AR(1)(p-Value): -3.73(0.00)
AR(2)(p-Value): 0.41(0.34)

Table 5.2: Model 2

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.693	0.050	13.786	0.000
γ	0.274	0.038	7.240	0.000
Car	-0.009	0.013	-0.669	0.503

Sargan(p-Value): 28.72(1.00)
AR(1)(p-Value): -3.66(0.00)
AR(2)(p-Value): 0.40(0.34)

Table 5.3: Model 3

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.677	0.052	12.965	0.000
γ	0.287	0.040	7.265	0.000
Ind	-0.065	0.067	-0.967	0.333

Sargan(p-Value): 28.83(1.00)
AR(1)(p-Value): -3.58(0.00)
AR(2)(p-Value): 0.41(0.34)

Table 5.4: Model 4

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.682	0.052	12.999	0.000
γ	0.285	0.040	7.182	0.000
Ind	-0.064	0.100	-0.645	0.519
Car	0.001	0.022	0.058	0.954

Sargan(p-Value): 28.34(1.00)
AR(1)(p-Value): -3.62(0.00)
AR(2)(p-Value): 0.41(0.34)

Table 5.5: Model 5

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.683	0.045	15.323	0.000
γ	0.214	0.040	5.410	0.000
Popden	-0.422	0.111	-3.800	0.000

Sargan(p-Value): 28.97(1.00)
AR(1)(p-Value): -3.61(0.00)
AR(2)(p-Value): 0.40(0.35)

Table 5.6: Model 6

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.699	0.048	14.523	0.000
γ	0.210	0.039	5.368	0.000
Popden	-0.447	0.140	-3.187	0.001
Car	0.008	0.017	0.474	0.636

Sargan(p-Value): 28.74(1.00)
AR(1)(p-Value): -3.68(0.00)
AR(2)(p-Value): 0.41(0.34)

Table 5.7: Model 7

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.681	0.050	13.719	0.000
γ	0.219	0.042	5.177	0.000
Popden	-0.428	0.126	-3.390	0.001
Ind	0.012	0.077	0.157	0.875

Sargan(p-Value): 28.92(1.00)
AR(1)(p-Value): -3.57(0.00)
AR(2)(p-Value): 0.39(0.35)

Table 5.8: Model 8

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.689	0.050	13.791	0.000
γ	0.221	0.041	5.360	0.000
Popden	-0.445	0.144	-3.092	0.002
Ind	-0.050	0.099	-0.502	0.615
Car	0.016	0.026	0.623	0.533

Sargan(p-Value): 28.64(1.00)
AR(1)(p-Value): -3.63(0.00)
AR(2)(p-Value): 0.41(0.34)

Table 5.9: Model 9

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.637	0.056	11.363	0.000
γ	0.288	0.043	6.717	0.000
Inc	-0.032	0.020	-1.569	0.117

Sargan(p-Value): 28.97(1.00)
AR(1)(p-Value): -3.55(0.00)
AR(2)(p-Value): 0.41(0.34)

Table 5.10: Model 10

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.631	0.055	11.425	0.000
γ	0.248	0.040	6.183	0.000
Inc	-0.170	0.032	-5.267	0.000
Car	0.103	0.023	4.450	0.000

Sargan(p-Value): 28.23(1.00)
AR(1)(p-Value): -3.54(0.00)
AR(2)(p-Value): 0.54(0.30)

Table 5.11: Model 11

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.633	0.058	10.994	0.000
γ	0.301	0.046	6.496	0.000
Inc	-0.014	0.039	-0.352	0.725
Ind	-0.074	0.118	-0.629	0.530

Sargan(p-Value): 28.84(1.00)
AR(1)(p-Value): -3.55(0.00)
AR(2)(p-Value): 0.40(0.34)

Table 5.12: Model 12

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.627	0.056	11.138	0.000
γ	0.261	0.043	6.125	0.000
Inc	-0.151	0.048	-3.129	0.002
Ind	-0.066	0.121	-0.546	0.585
Car	0.101	0.023	4.337	0.000

Sargan(p-Value): 27.59(1.00)
AR(1)(p-Value): -3.54(0.00)
AR(2)(p-Value): 0.54(0.30)

Table 5.13: Model 13

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.646	0.054	11.941	0.000
γ	0.234	0.043	5.485	0.000
Inc	-0.007	0.026	-0.274	0.784
Popden	-0.442	0.152	-2.898	0.004

Sargan(p-Value): 28.83(1.00)
AR(1)(p-Value): -3.59(0.00)
AR(2)(p-Value): 0.40(0.34)

Table 5.14: Model 14

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.639	0.054	11.866	0.000
γ	0.194	0.042	4.606	0.000
Inc	-0.146	0.035	-4.137	0.000
Popden	-0.441	0.162	-2.723	0.006
Car	0.104	0.023	4.529	0.000

Sargan(p-Value): 28.18(1.00)
AR(1)(p-Value): -3.56(0.00)
AR(2)(p-Value): 0.53(0.30)

Table 5.15: Model 15

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.642	0.055	11.625	0.000
γ	0.246	0.046	5.371	0.000
Inc	0.009	0.044	0.210	0.834
Popden	-0.441	0.157	-2.812	0.005
Ind	-0.069	0.118	-0.585	0.559

Sargan(p-Value): 28.84(1.00)
AR(1)(p-Value): -3.59(0.00)
AR(2)(p-Value): 0.39(0.35)

Table 5.16: Model 16

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.636	0.055	11.663	0.000
γ	0.206	0.044	4.662	0.000
Inc	-0.129	0.051	-2.556	0.011
Popden	-0.440	0.166	-2.644	0.008
Ind	-0.060	0.120	-0.497	0.619
Car	0.102	0.023	4.379	0.000

Sargan(p-Value): 27.99(1.00)

AR(1)(p-Value): -3.56(0.00)
AR(2)(p-Value): 0.52(0.30)

Table 5.17: Model 17

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.654	0.048	13.629	0.000
γ	0.217	0.042	5.221	0.000
lnT	-0.060	0.012	-5.165	0.000

Sargan(p-Value): 29.26(1.00)
AR(1)(p-Value): -3.61(0.00)
AR(2)(p-Value): 0.39(0.35)

Table 5.18: Model 18

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.666	0.047	14.286	0.000
γ	0.218	0.040	5.392	0.000
Car	0.009	0.015	0.569	0.569
lnT	-0.063	0.014	-4.412	0.000

Sargan(p-Value): 28.09(1.00)
AR(1)(p-Value): -3.63(0.00)
AR(2)(p-Value): 0.40(0.34)

Table 5.19: Model 19

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.659	0.045	14.538	0.000
γ	0.224	0.042	5.296	0.000
Ind	0.053	0.064	0.829	0.407
lnT	-0.064	0.014	-4.520	0.000

Sargan(p-Value): 28.56(1.00)
AR(1)(p-Value): -3.60(0.00)
AR(2)(p-Value): 0.38(0.35)

Table 5.20: Model 20

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.662	0.047	14.021	0.000
γ	0.223	0.041	5.413	0.000
Ind	0.051	0.080	0.641	0.522
Car	0.001	0.022	0.059	0.953
lnT	-0.064	0.014	-4.527	0.000

Sargan(p-Value): 28.01(1.00)

AR(1)(p-Value): -3.63(0.00)
AR(2)(p-Value): 0.38(0.35)

Table 5.21: Model 21

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.653	0.049	13.443	0.000
γ	0.210	0.042	5.001	0.000
Popden	-0.109	0.154	-0.709	0.478
lnT	-0.053	0.014	-3.748	0.000

Sargan(p-Value): 28.97(1.00)
AR(1)(p-Value): -3.57(0.00)
AR(2)(p-Value): 0.39(0.35)

Table 5.22: Model 22

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.670	0.047	14.308	0.000
γ	0.209	0.041	5.125	0.000
Popden	-0.139	0.150	-0.924	0.355
Car	0.011	0.016	0.715	0.475
lnT	-0.054	0.014	-3.822	0.000

Sargan(p-Value): 28.35(1.00)
AR(1)(p-Value): -3.64(0.00)
AR(2)(p-Value): 0.40(0.34)

Table 5.23: Model 23

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.661	0.045	14.593	0.000
γ	0.214	0.042	5.050	0.000
Popden	-0.127	0.143	-0.888	0.374
Ind	0.062	0.064	0.963	0.336
lnT	-0.056	0.016	-3.561	0.000

Sargan(p-Value): 28.65(1.00)
AR(1)(p-Value): -3.59(0.00)
AR(2)(p-Value): 0.38(0.35)

Table 5.24: Model 24

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.665	0.047	14.064	0.000
γ	0.214	0.042	5.128	0.000
Popden	-0.132	0.148	-0.893	0.372
Ind	0.044	0.078	0.566	0.572
Car	0.005	0.023	0.218	0.827
lnT	-0.056	0.014	-3.986	0.000

Sargan(p-Value): 28.38(1.00)

AR(1)(p-Value): -3.65(0.00)

AR(2)(p-Value): 0.38(0.35)

Table 5.25: Model 25

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.633	0.051	12.327	0.000
γ	0.230	0.045	5.151	0.000
Inc	-0.006	0.023	-0.257	0.798
lnT	-0.059	0.015	-3.837	0.000

Sargan(p-Value): 28.72(1.00)

AR(1)(p-Value): -3.56(0.00)

AR(2)(p-Value): 0.39(0.35)

Table 5.26: Model 26

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.625	0.052	12.067	0.000
γ	0.192	0.045	4.247	0.000
Inc	-0.142	0.036	-3.956	0.000
Car	0.101	0.023	4.375	0.000
lnT	-0.059	0.015	-3.831	0.000

Sargan(p-Value): 27.96(1.00)

AR(1)(p-Value): -3.53(0.00)

AR(2)(p-Value): 0.51(0.31)

Table 5.27: Model 27

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.629	0.053	11.954	0.000
γ	0.230	0.045	5.115	0.000
Inc	-0.015	0.038	-0.386	0.699
Ind	0.043	0.101	0.422	0.673
lnT	-0.060	0.015	-4.014	0.000

Sargan(p-Value): 28.60(1.00)

AR(1)(p-Value): -3.56(0.00)
AR(2)(p-Value): 0.37(0.35)

Table 5.28: Model 28

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.621	0.054	11.546	0.000
γ	0.192	0.045	4.232	0.000
Inc	-0.149	0.049	-3.069	0.002
Ind	0.049	0.104	0.466	0.642
Car	0.099	0.023	4.267	0.000
lnT	-0.060	0.015	-4.005	0.000

Sargan(p-Value): 27.44(1.00)
AR(1)(p-Value): -3.52(0.00)
AR(2)(p-Value): 0.48(0.32)

Table 5.29: Model 29

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.634	0.052	12.227	0.000
γ	0.222	0.045	4.964	0.000
Inc	-0.000	0.025	-0.020	0.984
Popden	-0.187	0.145	-1.287	0.198
lnT	-0.048	0.015	-3.231	0.001

Sargan(p-Value): 28.72(1.00)
AR(1)(p-Value): -3.57(0.00)
AR(2)(p-Value): 0.39(0.35)

Table 5.30: Model 30

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.627	0.052	11.960	0.000
γ	0.184	0.045	4.105	0.000
Inc	-0.136	0.037	-3.689	0.000
Popden	-0.187	0.159	-1.177	0.239
Car	0.101	0.023	4.363	0.000
lnT	-0.047	0.014	-3.341	0.001

Sargan(p-Value): 28.02(1.00)
AR(1)(p-Value): -3.55(0.00)
AR(2)(p-Value): 0.50(0.31)

Table 5.31: Model 31

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.631	0.053	11.866	0.000
γ	0.223	0.045	4.918	0.000
Inc	-0.008	0.040	-0.203	0.839
Popden	-0.179	0.144	-1.236	0.217
Ind	0.036	0.101	0.360	0.719
lnT	-0.049	0.014	-3.543	0.000

Sargan(p-Value): 28.66(1.00)
AR(1)(p-Value): -3.58(0.00)
AR(2)(p-Value): 0.37(0.35)

Table 5.32: Model 32

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.623	0.054	11.471	0.000
γ	0.184	0.045	4.075	0.000
Inc	-0.143	0.050	-2.853	0.004
Popden	-0.178	0.156	-1.136	0.256
Ind	0.043	0.104	0.410	0.682
Car	0.099	0.023	4.254	0.000
lnT	-0.049	0.013	-3.673	0.000

Sargan(p-Value): 27.78(1.00)
AR(1)(p-Value): -3.54(0.00)
AR(2)(p-Value): 0.47(0.32)

Table 5.33: Model 33

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.719	0.061	11.730	0.000
γ	0.211	0.053	3.984	0.000
T	-0.003	0.001	-1.762	0.078

Sargan(p-Value): 29.24(1.00)
AR(1)(p-Value): -3.64(0.00)
AR(2)(p-Value): 0.39(0.35)

Table 5.34: Model 34

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.691	0.068	10.227	0.000
γ	0.160	0.058	2.750	0.006
Car	0.084	0.027	3.148	0.002
T	-0.015	0.004	-3.919	0.000

Sargan(p-Value): 28.75(1.00)

AR(1)(p-Value): -3.44(0.00)
AR(2)(p-Value): 0.41(0.34)

Table 5.35: Model 35

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.702	0.065	10.876	0.000
γ	0.204	0.054	3.777	0.000
Ind	0.137	0.071	1.928	0.054
T	-0.006	0.003	-2.324	0.020

Sargan(p-Value): 29.21(1.00)
AR(1)(p-Value): -3.61(0.00)
AR(2)(p-Value): 0.35(0.36)

Table 5.36: Model 36

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.683	0.070	9.745	0.000
γ	0.164	0.059	2.760	0.006
Ind	0.043	0.085	0.503	0.615
Car	0.081	0.031	2.608	0.009
T	-0.015	0.004	-4.179	0.000

Sargan(p-Value): 28.69(1.00)
AR(1)(p-Value): -3.46(0.00)
AR(2)(p-Value): 0.38(0.35)

Table 5.37: Model 37

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.753	0.060	12.570	0.000
γ	0.168	0.050	3.357	0.001
Popden	-0.420	0.151	-2.788	0.005
T	0.001	0.002	0.546	0.585

Sargan(p-Value): 28.91(1.00)
AR(1)(p-Value): -3.81(0.00)
AR(2)(p-Value): 0.40(0.34)

Table 5.38: Model 38

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.724	0.063	11.577	0.000
γ	0.147	0.055	2.661	0.008
Popden	-0.297	0.143	-2.078	0.038
Car	0.058	0.021	2.712	0.007
T	-0.008	0.003	-2.708	0.007

Sargan(p-Value): 27.93(1.00)
AR(1)(p-Value): -3.64(0.00)
AR(2)(p-Value): 0.41(0.34)

Table 5.39: Model 39

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.738	0.063	11.632	0.000
γ	0.169	0.052	3.227	0.001
Popden	-0.391	0.162	-2.420	0.016
Ind	0.088	0.072	1.213	0.225
T	-0.001	0.004	-0.342	0.732

Sargan(p-Value): 28.58(1.00)
AR(1)(p-Value): -3.80(0.00)
AR(2)(p-Value): 0.38(0.35)

Table 5.40: Model 40

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.715	0.065	10.935	0.000
γ	0.151	0.057	2.663	0.008
Popden	-0.290	0.148	-1.961	0.050
Ind	0.037	0.083	0.442	0.659
Car	0.055	0.025	2.253	0.024
T	-0.009	0.003	-2.709	0.007

Sargan(p-Value): 27.97(1.00)
AR(1)(p-Value): -3.66(0.00)
AR(2)(p-Value): 0.40(0.35)

Table 5.41: Model 41

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.729	0.061	12.025	0.000
γ	0.196	0.051	3.871	0.000
Inc	0.026	0.061	0.424	0.672
T	-0.005	0.006	-0.805	0.421

Sargan(p-Value): 29.26(1.00)

AR(1)(p-Value): -3.61(0.00)
AR(2)(p-Value): 0.38(0.35)

Table 5.42: Model 42

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.704	0.065	10.806	0.000
γ	0.157	0.056	2.805	0.005
Inc	-0.124	0.073	-1.695	0.090
Car	0.119	0.021	5.637	0.000
T	-0.007	0.007	-0.980	0.327

Sargan(p-Value): 28.55(1.00)
AR(1)(p-Value): -3.47(0.00)
AR(2)(p-Value): 0.50(0.31)

Table 5.43: Model 43

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.726	0.064	11.376	0.000
γ	0.199	0.052	3.862	0.000
Inc	0.032	0.072	0.450	0.653
Ind	-0.011	0.103	-0.107	0.915
T	-0.006	0.006	-0.898	0.369

Sargan(p-Value): 29.18(1.00)
AR(1)(p-Value): -3.65(0.00)
AR(2)(p-Value): 0.36(0.36)

Table 5.44: Model 44

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.701	0.069	10.183	0.000
γ	0.161	0.057	2.819	0.005
Inc	-0.114	0.081	-1.401	0.161
Ind	-0.017	0.106	-0.156	0.876
Car	0.117	0.021	5.533	0.000
T	-0.007	0.007	-1.075	0.282

Sargan(p-Value): 27.97(1.00)
AR(1)(p-Value): -3.49(0.00)
AR(2)(p-Value): 0.49(0.31)

Table 5.45: Model 45

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.784	0.058	13.524	0.000
γ	0.162	0.049	3.323	0.001
Inc	-0.076	0.057	-1.352	0.176
Popden	-0.574	0.136	-4.231	0.000
T	0.011	0.006	1.725	0.084

Sargan(p-Value): 28.57(1.00)
AR(1)(p-Value): -3.77(0.00)
AR(2)(p-Value): 0.47(0.32)

Table 5.46: Model 46

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.757	0.060	12.631	0.000
γ	0.126	0.053	2.375	0.018
Inc	-0.216	0.066	-3.290	0.001
Popden	-0.548	0.138	-3.961	0.000
Car	0.114	0.022	5.215	0.000
T	0.009	0.006	1.444	0.149

Sargan(p-Value): 27.37(1.00)
AR(1)(p-Value): -3.65(0.00)
AR(2)(p-Value): 0.59(0.28)

Table 5.47: Model 47

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.777	0.060	12.957	0.000
γ	0.163	0.050	3.273	0.001
Inc	-0.085	0.064	-1.327	0.185
Popden	-0.570	0.138	-4.140	0.000
Ind	0.050	0.097	0.516	0.606
T	0.010	0.006	1.740	0.082

Sargan(p-Value): 26.68(1.00)
AR(1)(p-Value): -3.80(0.00)
AR(2)(p-Value): 0.46(0.32)

Table 5.48: Model 48

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.750	0.063	11.952	0.000
γ	0.128	0.054	2.367	0.018
Inc	-0.219	0.071	-3.097	0.002
Popden	-0.542	0.138	-3.945	0.000
Ind	0.041	0.100	0.413	0.680
Car	0.112	0.022	5.121	0.000
T	0.008	0.006	1.427	0.154

Sargan(p-Value): 26.75(1.00)
AR(1)(p-Value): -3.67(0.00)
AR(2)(p-Value): 0.57(0.29)

6 $S_{lag\text{-}g}$ model using inverse distance matrix

Table 6.1: Model 1

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.536	0.074	7.289	0.000
γ^1	0.405	0.107	3.769	0.000
γ^2	0.487	0.068	7.127	0.000

Sargan(p-Value): 29.85(1.00)
AR(1)(p-Value): -3.26(0.00)
AR(2)(p-Value): 0.19(0.42)

Table 6.2: Model 2

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.539	0.072	7.526	0.000
γ^1	0.393	0.112	3.521	0.000
γ^2	0.478	0.073	6.554	0.000
Car	-0.003	0.018	-0.171	0.864

Sargan(p-Value): 28.11(1.00)
AR(1)(p-Value): -3.27(0.00)
AR(2)(p-Value): 0.20(0.42)

Table 6.3: Model 3

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.523	0.073	7.208	0.000
γ^1	0.406	0.112	3.620	0.000
γ^2	0.485	0.070	6.935	0.000
Ind	-0.040	0.077	-0.521	0.602

Sargan(p-Value): 28.32(1.00)
AR(1)(p-Value): -3.20(0.00)
AR(2)(p-Value): 0.20(0.42)

Table 6.4: Model 4

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.531	0.073	7.279	0.000
γ^1	0.405	0.111	3.643	0.000
γ^2	0.485	0.073	6.652	0.000
Ind	-0.069	0.101	-0.687	0.492
Car	0.008	0.027	0.297	0.767

Sargan(p-Value): 28.11(1.00)
AR(1)(p-Value): -3.25(0.00)
AR(2)(p-Value): 0.22(0.41)

Table 6.5: Model 5

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.545	0.068	7.957	0.000
γ^1	0.268	0.112	2.389	0.017
γ^2	0.400	0.072	5.582	0.000
Popden	-0.438	0.154	-2.848	0.004

Sargan(p-Value): 28.77(1.00)
AR(1)(p-Value): -3.25(0.00)
AR(2)(p-Value): 0.24(0.40)

Table 6.6: Model 6

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.565	0.068	8.327	0.000
γ^1	0.258	0.110	2.347	0.019
γ^2	0.405	0.070	5.762	0.000
Popden	-0.493	0.185	-2.667	0.008
Car	0.015	0.021	0.685	0.493

Sargan(p-Value): 27.73(1.00)
AR(1)(p-Value): -3.35(0.00)

AR(2)(p-Value): 0.27(0.40)

Table 6.7: Model 7

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.549	0.068	8.014	0.000
γ^1	0.266	0.110	2.408	0.016
γ^2	0.408	0.071	5.728	0.000
Popden	-0.465	0.163	-2.851	0.004
Ind	0.041	0.083	0.497	0.619

Sargan(p-Value): 28.23(1.00)
AR(1)(p-Value): -3.26(0.00)
AR(2)(p-Value): 0.23(0.41)

Table 6.8: Model 8

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.558	0.069	8.105	0.000
γ^1	0.267	0.108	2.474	0.013
γ^2	0.412	0.071	5.801	0.000
Popden	-0.490	0.186	-2.643	0.008
Ind	-0.041	0.097	-0.426	0.670
Car	0.021	0.030	0.701	0.483

Sargan(p-Value): 27.72(1.00)
AR(1)(p-Value): -3.33(0.00)
AR(2)(p-Value): 0.27(0.39)

Table 6.9: Model 9

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.484	0.077	6.243	0.000
γ^1	0.451	0.128	3.528	0.000
γ^2	0.478	0.082	5.821	0.000
Inc	-0.023	0.026	-0.886	0.376

Sargan(p-Value): 27.74(1.00)
AR(1)(p-Value): -3.03(0.00)
AR(2)(p-Value): 0.17(0.43)

Table 6.10: Model 10

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.476	0.079	6.062	0.000
γ^1	0.401	0.126	3.193	0.001
γ^2	0.441	0.080	5.498	0.000
Inc	-0.163	0.038	-4.342	0.000
Car	0.104	0.026	3.972	0.000

Sargan(p-Value): 27.18(1.00)
AR(1)(p-Value): -2.97(0.00)
AR(2)(p-Value): 0.33(0.37)

Table 6.11: Model 11

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.483	0.079	6.112	0.000
γ^1	0.462	0.126	3.669	0.000
γ^2	0.489	0.084	5.849	0.000
Inc	-0.003	0.047	-0.056	0.955
Ind	-0.086	0.128	-0.672	0.502

Sargan(p-Value): 27.93(1.00)
AR(1)(p-Value): -3.04(0.00)
AR(2)(p-Value): 0.19(0.43)

Table 6.12: Model 12

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.476	0.080	5.945	0.000
γ^1	0.412	0.123	3.350	0.001
γ^2	0.451	0.081	5.593	0.000
Inc	-0.142	0.055	-2.597	0.009
Ind	-0.081	0.131	-0.618	0.536
Car	0.103	0.026	3.964	0.000

Sargan(p-Value): 27.21(1.00)
AR(1)(p-Value): -2.97(0.00)
AR(2)(p-Value): 0.35(0.36)

Table 6.13: Model 13

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.508	0.073	6.915	0.000
γ^1	0.340	0.124	2.737	0.006
γ^2	0.419	0.077	5.457	0.000
Inc	-0.001	0.031	-0.023	0.982
Popden	-0.445	0.197	-2.259	0.024

Sargan(p-Value): 27.85(1.00)
AR(1)(p-Value): -3.15(0.00)
AR(2)(p-Value): 0.21(0.42)

Table 6.14: Model 14

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.499	0.075	6.664	0.000
γ^1	0.290	0.123	2.361	0.018
γ^2	0.381	0.076	5.021	0.000
Inc	-0.143	0.039	-3.632	0.000
Popden	-0.451	0.206	-2.185	0.029
Car	0.106	0.026	4.049	0.000

Sargan(p-Value): 27.23(1.00)
AR(1)(p-Value): -3.07(0.00)
AR(2)(p-Value): 0.36(0.36)

Table 6.15: Model 15

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.508	0.075	6.767	0.000
γ^1	0.350	0.122	2.869	0.004
γ^2	0.429	0.079	5.457	0.000
Inc	0.018	0.052	0.347	0.729
Popden	-0.445	0.200	-2.224	0.026
Ind	-0.078	0.125	-0.623	0.533

Sargan(p-Value): 27.83(1.00)
AR(1)(p-Value): -3.16(0.00)
AR(2)(p-Value): 0.22(0.41)

Table 6.16: Model 16

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.499	0.076	6.541	0.000
γ^1	0.300	0.120	2.504	0.012
γ^2	0.391	0.077	5.096	0.000
Inc	-0.124	0.056	-2.232	0.026
Popden	-0.451	0.210	-2.149	0.032
Ind	-0.073	0.128	-0.567	0.571
Car	0.105	0.026	3.994	0.000

Sargan(p-Value): 27.23(1.00)
AR(1)(p-Value): -3.07(0.00)

AR(2)(p-Value): 0.38(0.35)

Table 6.17: Model 17

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.554	0.069	7.994	0.000
γ^1	0.264	0.104	2.540	0.011
γ^2	0.365	0.067	5.436	0.000
$\ln T^1$	-0.074	0.019	-3.829	0.000
$\ln T^2$	-0.048	0.016	-2.994	0.003

Sargan(p-Value): 29.39(1.00)
AR(1)(p-Value): -3.36(0.00)
AR(2)(p-Value): 0.24(0.40)

Table 6.18: Model 18

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.563	0.067	8.435	0.000
γ^1	0.275	0.106	2.594	0.009
γ^2	0.378	0.070	5.442	0.000
Car	0.013	0.019	0.716	0.474
$\ln T^1$	-0.076	0.022	-3.519	0.000
$\ln T^2$	-0.053	0.019	-2.818	0.005

Sargan(p-Value): 27.80(1.00)
AR(1)(p-Value): -3.40(0.00)
AR(2)(p-Value): 0.25(0.40)

Table 6.19: Model 19

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.551	0.069	7.968	0.000
γ^1	0.281	0.110	2.563	0.010
γ^2	0.390	0.071	5.492	0.000
Ind	0.083	0.075	1.097	0.273
$\ln T^1$	-0.078	0.022	-3.527	0.000
$\ln T^2$	-0.054	0.018	-3.008	0.003

Sargan(p-Value): 27.95(1.00)
AR(1)(p-Value): -3.32(0.00)
AR(2)(p-Value): 0.21(0.42)

Table 6.20: Model 20

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.554	0.069	8.015	0.000
γ^1	0.281	0.108	2.600	0.009
γ^2	0.388	0.071	5.456	0.000
Ind	0.078	0.078	1.002	0.316
Car	0.002	0.025	0.084	0.933
lnT^1	-0.077	0.022	-3.513	0.000
lnT^2	-0.055	0.018	-3.029	0.002

Sargan(p-Value): 27.43(1.00)
AR(1)(p-Value): -3.37(0.00)
AR(2)(p-Value): 0.21(0.42)

Table 6.21: Model 21

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.552	0.070	7.871	0.000
γ^1	0.250	0.111	2.242	0.025
γ^2	0.358	0.069	5.203	0.000
Popden	-0.124	0.216	-0.571	0.568
lnT^1	-0.065	0.023	-2.775	0.006
lnT^2	-0.040	0.020	-1.986	0.047

Sargan(p-Value): 28.41(1.00)
AR(1)(p-Value): -3.34(0.00)
AR(2)(p-Value): 0.24(0.40)

Table 6.22: Model 22

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.567	0.067	8.465	0.000
γ^1	0.253	0.112	2.263	0.024
γ^2	0.369	0.070	5.285	0.000
Popden	-0.177	0.205	-0.860	0.390
Car	0.017	0.019	0.871	0.384
lnT^1	-0.065	0.023	-2.777	0.005
lnT^2	-0.042	0.020	-2.125	0.034

Sargan(p-Value): 27.84(1.00)
AR(1)(p-Value): -3.43(0.00)
AR(2)(p-Value): 0.26(0.40)

Table 6.23: Model 23

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.553	0.069	8.036	0.000
γ^1	0.259	0.116	2.236	0.025
γ^2	0.381	0.072	5.282	0.000
Popden	-0.157	0.203	-0.772	0.440
Ind	0.094	0.072	1.297	0.195
lnTe	-0.068	0.026	-2.617	0.009
lnT^2	-0.045	0.021	-2.087	0.037

Sargan(p-Value): 27.76(1.00)
AR(1)(p-Value): -3.33(0.00)
AR(2)(p-Value): 0.21(0.42)

Table 6.24: Model 24

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.559	0.069	8.065	0.000
γ^1	0.259	0.115	2.255	0.024
γ^2	0.379	0.071	5.304	0.000
Popden	-0.166	0.205	-0.810	0.418
Ind	0.073	0.078	0.940	0.347
Car	0.006	0.026	0.229	0.819
lnT^1	-0.066	0.024	-2.749	0.006
lnT^2	-0.045	0.019	-2.300	0.021

Sargan(p-Value): 27.48(1.00)
AR(1)(p-Value): -3.40(0.00)
AR(2)(p-Value): 0.22(0.41)

Table 6.25: Model 25

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.536	0.070	7.661	0.000
γ^1	0.310	0.113	2.732	0.006
γ^2	0.374	0.076	4.930	0.000
Inc	0.001	0.027	0.033	0.974
lnT^1	-0.075	0.022	-3.359	0.001
lnT^2	-0.048	0.020	-2.451	0.014

Sargan(p-Value): 27.55(1.00)
AR(1)(p-Value): -3.30(0.00)
AR(2)(p-Value): 0.23(0.41)

Table 6.26: Model 26

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.526	0.072	7.257	0.000
γ^1	0.267	0.113	2.368	0.018
γ^2	0.338	0.078	4.314	0.000
Inc	-0.135	0.039	-3.509	0.000
Car	0.101	0.025	4.118	0.000
$\ln T^1$	-0.074	0.023	-3.256	0.001
$\ln T^2$	-0.049	0.020	-2.440	0.015

Sargan(p-Value): 27.27(1.00)
AR(1)(p-Value): -3.21(0.00)
AR(2)(p-Value): 0.36(0.36)

Table 6.27: Model 27

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.528	0.074	7.138	0.000
γ^1	0.309	0.113	2.736	0.006
γ^2	0.377	0.077	4.891	0.000
Inc	-0.012	0.043	-0.272	0.785
Ind	0.060	0.103	0.579	0.563
$\ln T^1$	-0.076	0.023	-3.360	0.001
$\ln T^2$	-0.050	0.019	-2.641	0.008

Sargan(p-Value): 27.57(1.00)
AR(1)(p-Value): -3.24(0.00)
AR(2)(p-Value): 0.20(0.42)

Table 6.28: Model 28

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.518	0.078	6.618	0.000
γ^1	0.267	0.112	2.381	0.017
γ^2	0.342	0.080	4.295	0.000
Inc	-0.146	0.052	-2.817	0.005
Ind	0.062	0.108	0.574	0.566
Car	0.099	0.025	3.971	0.000
$\ln T^1$	-0.075	0.023	-3.282	0.001
$\ln T^2$	-0.050	0.019	-2.616	0.009

Sargan(p-Value): 27.25(1.00)
AR(1)(p-Value): -3.12(0.00)
AR(2)(p-Value): 0.32(0.38)

Table 6.29: Model 29

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.535	0.071	7.542	0.000
γ^1	0.298	0.120	2.482	0.013
γ^2	0.370	0.076	4.836	0.000
Inc	0.005	0.028	0.191	0.848
Popden	-0.172	0.203	-0.849	0.396
$\ln T^1$	-0.064	0.024	-2.716	0.007
$\ln T^2$	-0.038	0.021	-1.831	0.067
Sargan(p-Value): 27.29(1.00)				
AR(1)(p-Value): -3.31(0.00)				
AR(2)(p-Value): 0.23(0.41)				

Table 6.30: Model 30

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.525	0.073	7.162	0.000
γ^1	0.254	0.117	2.179	0.029
γ^2	0.334	0.079	4.248	0.000
Inc	-0.130	0.040	-3.291	0.001
Popden	-0.183	0.210	-0.870	0.384
Car	0.101	0.025	4.068	0.000
$\ln T^1$	-0.062	0.024	-2.619	0.009
$\ln T^2$	-0.038	0.020	-1.882	0.060
Sargan(p-Value): 27.30(1.00)				
AR(1)(p-Value): -3.23(0.00)				
AR(2)(p-Value): 0.36(0.36)				

Table 6.31: Model 31

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.528	0.075	7.018	0.000
γ^1	0.298	0.120	2.477	0.013
γ^2	0.373	0.078	4.806	0.000
Inc	-0.006	0.044	-0.140	0.888
Popden	-0.163	0.204	-0.800	0.424
Ind	0.055	0.104	0.523	0.601
$\ln T^1$	-0.066	0.024	-2.706	0.007
$\ln T^2$	-0.040	0.020	-2.020	0.043
Sargan(p-Value): 27.23(1.00)				
AR(1)(p-Value): -3.26(0.00)				

AR(2)(p-Value): 0.21(0.42)

Table 6.32: Model 32

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.518	0.079	6.536	0.000
γ^1	0.255	0.117	2.179	0.029
γ^2	0.338	0.080	4.231	0.000
Inc	-0.140	0.053	-2.617	0.009
Popden	-0.173	0.211	-0.823	0.411
Ind	0.056	0.109	0.515	0.606
Car	0.099	0.025	3.931	0.000
$\ln T^1$	-0.064	0.024	-2.618	0.009
$\ln T^2$	-0.040	0.019	-2.078	0.038

Sargan(p-Value): 27.25(1.00)
AR(1)(p-Value): -3.15(0.00)
AR(2)(p-Value): 0.32(0.37)

Table 6.33: Model 33

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.682	0.076	9.008	0.000
γ^1	0.148	0.121	1.220	0.222
γ^2	0.339	0.076	4.477	0.000
T^1	-0.007	0.003	-2.661	0.008
T^2	0.001	0.002	0.403	0.687

Sargan(p-Value): 29.01(1.00)
AR(1)(p-Value): -3.59(0.00)
AR(2)(p-Value): 0.28(0.39)

Table 6.34: Model 34

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.660	0.082	8.045	0.000
γ^1	0.110	0.125	0.882	0.378
γ^2	0.282	0.076	3.698	0.000
Car	0.078	0.030	2.611	0.009
T^1	-0.018	0.005	-3.592	0.000
T^2	-0.010	0.004	-2.579	0.010

Sargan(p-Value): 28.47(1.00)
AR(1)(p-Value): -3.34(0.00)

AR(2)(p-Value): 0.31(0.38)

Table 6.35: Model 35

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.641	0.084	7.592	0.000
γ^1	0.159	0.132	1.201	0.230
γ^2	0.348	0.080	4.335	0.000
Ind	0.185	0.069	2.674	0.007
T^1	-0.011	0.003	-3.703	0.000
T^2	-0.004	0.003	-1.169	0.243

Sargan(p-Value): 28.77(1.00)
AR(1)(p-Value): -3.40(0.00)
AR(2)(p-Value): 0.22(0.41)

Table 6.36: Model 36

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.637	0.088	7.235	0.000
γ^1	0.124	0.133	0.929	0.353
γ^2	0.297	0.077	3.847	0.000
Ind	0.111	0.084	1.329	0.184
Car	0.068	0.035	1.936	0.053
T^1	-0.019	0.005	-3.858	0.000
T^2	-0.012	0.004	-2.805	0.005

Sargan(p-Value): 28.47(1.00)
AR(1)(p-Value): -3.30(0.00)
AR(2)(p-Value): 0.26(0.40)

Table 6.37: Model 37

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.701	0.079	8.888	0.000
γ^1	0.165	0.128	1.283	0.200
γ^2	0.277	0.074	3.743	0.000
$Popden$	-0.530	0.187	-2.838	0.005
T^1	0.002	0.004	0.616	0.538
T^2	0.003	0.003	1.185	0.236

Sargan(p-Value): 28.91(1.00)
AR(1)(p-Value): -3.64(0.00)
AR(2)(p-Value): 0.32(0.37)

Table 6.38: Model 38

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.686	0.083	8.261	0.000
γ^1	0.146	0.125	1.170	0.242
γ^2	0.261	0.073	3.575	0.000
Popden	-0.417	0.183	-2.282	0.022
Car	0.038	0.027	1.398	0.162
T^1	-0.005	0.006	-0.912	0.362
T^2	-0.003	0.004	-0.724	0.469

Sargan(p-Value): 27.41(1.00)
AR(1)(p-Value): -3.48(0.00)
AR(2)(p-Value): 0.33(0.37)

Table 6.39: Model 39

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.671	0.085	7.915	0.000
γ^1	0.175	0.135	1.293	0.196
γ^2	0.288	0.075	3.824	0.000
Popden	-0.481	0.209	-2.304	0.021
Ind	0.121	0.078	1.557	0.119
T^1	-0.001	0.005	-0.203	0.839
T^2	-0.000	0.004	-0.038	0.970

Sargan(p-Value): 28.12(1.00)
AR(1)(p-Value): -3.56(0.00)
AR(2)(p-Value): 0.28(0.39)

Table 6.40: Model 40

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.664	0.088	7.570	0.000
γ^1	0.160	0.131	1.220	0.222
γ^2	0.275	0.073	3.771	0.000
Popden	-0.402	0.194	-2.070	0.038
Ind	0.099	0.086	1.155	0.248
Car	0.030	0.031	0.956	0.339
T^1	-0.006	0.006	-1.042	0.297
T^2	-0.004	0.005	-0.937	0.349

Sargan(p-Value): 27.04(1.00)
AR(1)(p-Value): -3.46(0.00)
AR(2)(p-Value): 0.29(0.39)

Table 6.41: Model 41

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.700	0.074	9.432	0.000
γ^1	0.156	0.121	1.294	0.196
γ^2	0.302	0.069	4.393	0.000
Inc	0.016	0.065	0.243	0.808
T^1	-0.008	0.007	-1.018	0.309
T^2	-0.001	0.007	-0.173	0.862

Sargan(p-Value): 28.88(1.00)

AR(1)(p-Value): -3.59(0.00)

AR(2)(p-Value): 0.28(0.39)

Table 6.42: Model 42

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.672	0.079	8.536	0.000
γ^1	0.102	0.122	0.833	0.405
γ^2	0.272	0.074	3.691	0.000
Inc	-0.141	0.076	-1.865	0.062
Car	0.122	0.022	5.636	0.000
T^1	-0.009	0.008	-1.224	0.221
T^2	-0.002	0.007	-0.266	0.791

Sargan(p-Value): 28.17(1.00)

AR(1)(p-Value): -3.40(0.00)

AR(2)(p-Value): 0.42(0.34)

Table 6.43: Model 43

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.687	0.080	8.586	0.000
γ^1	0.161	0.125	1.295	0.195
γ^2	0.310	0.069	4.464	0.000
Inc	0.004	0.074	0.051	0.959
Ind	0.059	0.099	0.594	0.552
T^1	-0.008	0.007	-1.055	0.291
T^2	-0.001	0.007	-0.214	0.831

Sargan(p-Value): 28.90(1.00)

AR(1)(p-Value): -3.59(0.00)

AR(2)(p-Value): 0.27(0.39)

Table 6.44: Model 44

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.660	0.086	7.684	0.000
γ^1	0.107	0.126	0.849	0.396
γ^2	0.280	0.075	3.743	0.000
Inc	-0.149	0.081	-1.830	0.067
Ind	0.053	0.104	0.508	0.611
Car	0.120	0.022	5.475	0.000
T^1	-0.010	0.008	-1.264	0.206
T^2	-0.002	0.007	-0.311	0.756

Sargan(p-Value): 28.07(1.00)
AR(1)(p-Value): -3.38(0.00)
AR(2)(p-Value): 0.40(0.35)

Table 6.45: Model 45

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.732	0.081	9.066	0.000
γ^1	0.175	0.128	1.361	0.173
γ^2	0.274	0.070	3.910	0.000
Inc	-0.147	0.078	-1.889	0.059
Popden	-0.856	0.204	-4.203	0.000
T^1	0.023	0.011	2.178	0.029
T^2	0.021	0.008	2.420	0.016

Sargan(p-Value): 27.78(1.00)
AR(1)(p-Value): -3.67(0.00)
AR(2)(p-Value): 0.45(0.33)

Table 6.46: Model 46

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.706	0.082	8.565	0.000
γ^1	0.125	0.126	0.997	0.319
γ^2	0.248	0.074	3.367	0.001
Inc	-0.282	0.081	-3.471	0.001
Popden	-0.808	0.194	-4.162	0.000
Car	0.111	0.023	4.887	0.000
T^1	0.020	0.010	1.898	0.058
T^2	0.019	0.008	2.242	0.025

Sargan(p-Value): 26.56(1.00)
AR(1)(p-Value): -3.50(0.00)

AR(2)(p-Value): 0.58(0.28)

Table 6.47: Model 47

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.709	0.082	8.638	0.000
γ^1	0.184	0.131	1.404	0.160
γ^2	0.287	0.068	4.218	0.000
Inc	-0.176	0.086	-2.056	0.040
Popden	-0.870	0.210	-4.140	0.000
Ind	0.116	0.103	1.128	0.259
T^1	0.024	0.010	2.317	0.020
T^2	0.021	0.008	2.456	0.014

Sargan(p-Value): 26.80(1.00)
AR(1)(p-Value): -3.67(0.00)
AR(2)(p-Value): 0.44(0.33)

Table 6.48: Model 48

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.684	0.086	7.995	0.000
γ^1	0.136	0.129	1.049	0.294
γ^2	0.262	0.072	3.626	0.000
Inc	-0.304	0.085	-3.564	0.000
Popden	-0.820	0.198	-4.135	0.000
Ind	0.107	0.107	1.003	0.316
Car	0.108	0.023	4.630	0.000
T^1	0.020	0.010	1.998	0.046
T^2	0.019	0.008	2.253	0.024

Sargan(p-Value): 26.44(1.00)
AR(1)(p-Value): -3.48(0.00)
AR(2)(p-Value): 0.55(0.29)

7 $S_{lag\text{-}g}$ model using rook contiguity matrix

Table 7.1: Model 1

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.703	0.044	15.855	0.000
γ^1	0.283	0.061	4.631	0.000
γ^2	0.283	0.046	6.170	0.000

Sargan(p-Value): 29.60(1.00)
AR(1)(p-Value): -3.72(0.00)
AR(2)(p-Value): 0.41(0.34)

Table 7.2: Model 2

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.689	0.050	13.692	0.000
γ^1	0.278	0.063	4.388	0.000
γ^2	0.277	0.045	6.166	0.000
Car	-0.009	0.013	-0.715	0.474

Sargan(p-Value): 28.84(1.00)
AR(1)(p-Value): -3.66(0.00)
AR(2)(p-Value): 0.40(0.34)

Table 7.3: Model 3

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.671	0.052	12.891	0.000
γ^1	0.291	0.063	4.642	0.000
γ^2	0.291	0.047	6.248	0.000
Ind	-0.069	0.065	-1.059	0.290

Sargan(p-Value): 28.68(1.00)
AR(1)(p-Value): -3.58(0.00)
AR(2)(p-Value): 0.41(0.34)

Table 7.4: Model 4

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.676	0.052	12.883	0.000
γ^1	0.288	0.062	4.644	0.000
γ^2	0.290	0.047	6.104	0.000
Ind	-0.072	0.098	-0.734	0.463
Car	0.002	0.022	0.086	0.932

Sargan(p-Value): 28.48(1.00)
AR(1)(p-Value): -3.62(0.00)
AR(2)(p-Value): 0.41(0.34)

Table 7.5: Model 5

	Estimate	Std. Error	z-value	Pr($>|z|$)
ρ	0.674	0.044	15.186	0.000
γ^1	0.163	0.065	2.513	0.012
γ^2	0.239	0.048	4.975	0.000
Popden	-0.464	0.126	-3.692	0.000

Sargan(p-Value): 28.80(1.00)
AR(1)(p-Value): -3.55(0.00)
AR(2)(p-Value): 0.41(0.34)

Table 7.6: Model 6

	Estimate	Std. Error	z-value	Pr($>|z|$)
ρ	0.692	0.049	14.172	0.000
γ^1	0.150	0.063	2.397	0.017
γ^2	0.238	0.048	5.006	0.000
Popden	-0.505	0.154	-3.269	0.001
Car	0.010	0.018	0.574	0.566

Sargan(p-Value): 28.30(1.00)
AR(1)(p-Value): -3.63(0.00)
AR(2)(p-Value): 0.42(0.34)

Table 7.7: Model 7

	Estimate	Std. Error	z-value	Pr($>|z|$)
ρ	0.674	0.051	13.227	0.000
γ^1	0.160	0.061	2.621	0.009
γ^2	0.246	0.050	4.923	0.000
Popden	-0.482	0.132	-3.661	0.000
Ind	0.022	0.073	0.305	0.760

Sargan(p-Value): 28.67(1.00)
AR(1)(p-Value): -3.52(0.00)
AR(2)(p-Value): 0.40(0.34)

Table 7.8: Model 8

	Estimate	Std. Error	z-value	Pr($>|z|$)
ρ	0.682	0.051	13.315	0.000
γ^1	0.159	0.060	2.630	0.009
γ^2	0.249	0.050	4.943	0.000
Popden	-0.505	0.154	-3.281	0.001
Ind	-0.046	0.097	-0.475	0.635
Car	0.018	0.027	0.653	0.514

Sargan(p-Value): 28.09(1.00)

AR(1)(p-Value): -3.59(0.00)
AR(2)(p-Value): 0.42(0.34)

Table 7.9: Model 9

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.634	0.055	11.515	0.000
γ^1	0.338	0.077	4.416	0.000
γ^2	0.267	0.045	5.960	0.000
Inc	-0.032	0.020	-1.602	0.109

Sargan(p-Value): 28.53(1.00)
AR(1)(p-Value): -3.53(0.00)
AR(2)(p-Value): 0.41(0.34)

Table 7.10: Model 10

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.628	0.055	11.451	0.000
γ^1	0.292	0.071	4.093	0.000
γ^2	0.231	0.043	5.337	0.000
Inc	-0.167	0.032	-5.141	0.000
Car	0.100	0.023	4.409	0.000

Sargan(p-Value): 28.24(1.00)
AR(1)(p-Value): -3.52(0.00)
AR(2)(p-Value): 0.54(0.30)

Table 7.11: Model 11

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.630	0.057	11.115	0.000
γ^1	0.346	0.075	4.618	0.000
γ^2	0.284	0.051	5.600	0.000
Inc	-0.013	0.039	-0.346	0.729
Ind	-0.077	0.120	-0.646	0.518

Sargan(p-Value): 28.50(1.00)
AR(1)(p-Value): -3.53(0.00)
AR(2)(p-Value): 0.41(0.34)

Table 7.12: Model 12

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.624	0.056	11.138	0.000
γ^1	0.300	0.069	4.325	0.000
γ^2	0.247	0.048	5.168	0.000
Inc	-0.147	0.048	-3.065	0.002
Ind	-0.069	0.122	-0.567	0.571
Car	0.098	0.023	4.296	0.000

Sargan(p-Value): 27.58(1.00)

AR(1)(p-Value): -3.52(0.00)

AR(2)(p-Value): 0.54(0.30)

Table 7.13: Model 13

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.640	0.053	12.185	0.000
γ^1	0.235	0.075	3.130	0.002
γ^2	0.240	0.047	5.154	0.000
Inc	-0.008	0.026	-0.301	0.764
Popden	-0.445	0.168	-2.656	0.008

Sargan(p-Value): 28.34(1.00)

AR(1)(p-Value): -3.53(0.00)

AR(2)(p-Value): 0.40(0.34)

Table 7.14: Model 14

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.633	0.052	12.074	0.000
γ^1	0.188	0.071	2.660	0.008
γ^2	0.202	0.046	4.384	0.000
Inc	-0.147	0.035	-4.158	0.000
Popden	-0.450	0.173	-2.602	0.009
Car	0.104	0.022	4.631	0.000

Sargan(p-Value): 28.00(1.00)

AR(1)(p-Value): -3.51(0.00)

AR(2)(p-Value): 0.53(0.30)

Table 7.15: Model 15

	Estimate	Std. Error	z-value	$\Pr(>|z|)$
ρ	0.635	0.054	11.704	0.000
γ^1	0.243	0.073	3.319	0.001
γ^2	0.255	0.053	4.831	0.000
Inc	0.010	0.046	0.228	0.820
Popden	-0.449	0.170	-2.645	0.008
Ind	-0.075	0.120	-0.626	0.531

Sargan(p-Value): 28.58(1.00)
AR(1)(p-Value): -3.53(0.00)
AR(2)(p-Value): 0.40(0.35)

Table 7.16: Model 16

	Estimate	Std. Error	z-value	$\Pr(>|z|)$
ρ	0.629	0.054	11.719	0.000
γ^1	0.196	0.068	2.873	0.004
γ^2	0.217	0.051	4.259	0.000
Inc	-0.128	0.051	-2.531	0.011
Popden	-0.455	0.176	-2.590	0.010
Ind	-0.066	0.123	-0.541	0.589
Car	0.102	0.023	4.479	0.000

Sargan(p-Value): 27.90(1.00)
AR(1)(p-Value): -3.51(0.00)
AR(2)(p-Value): 0.53(0.30)

Table 7.17: Model 17

	Estimate	Std. Error	z-value	$\Pr(>|z|)$
ρ	0.657	0.045	14.561	0.000
γ^1	0.229	0.063	3.656	0.000
γ^2	0.206	0.041	4.972	0.000
$\ln T^1$	-0.058	0.018	-3.150	0.002
$\ln T^2$	-0.061	0.015	-4.153	0.000

Sargan(p-Value): 28.70(1.00)
AR(1)(p-Value): -3.61(0.00)
AR(2)(p-Value): 0.39(0.35)

Table 7.18: Model 18

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.669	0.043	15.432	0.000
γ^1	0.230	0.062	3.729	0.000
γ^2	0.208	0.040	5.147	0.000
Car	0.008	0.015	0.559	0.576
$\ln T^1$	-0.060	0.021	-2.926	0.003
$\ln T^2$	-0.064	0.017	-3.838	0.000

Sargan(p-Value): 27.97(1.00)

AR(1)(p-Value): -3.64(0.00)

AR(2)(p-Value): 0.40(0.34)

Table 7.19: Model 19

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.662	0.042	15.727	0.000
γ^1	0.232	0.063	3.687	0.000
γ^2	0.216	0.042	5.154	0.000
Ind	0.056	0.061	0.925	0.355
$\ln T^1$	-0.062	0.021	-3.002	0.003
$\ln T^2$	-0.065	0.016	-4.088	0.000

Sargan(p-Value): 27.57(1.00)

AR(1)(p-Value): -3.61(0.00)

AR(2)(p-Value): 0.39(0.35)

Table 7.20: Model 20

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.663	0.044	15.046	0.000
γ^1	0.232	0.062	3.741	0.000
γ^2	0.215	0.041	5.193	0.000
Ind	0.063	0.080	0.790	0.429
Car	-0.001	0.022	-0.038	0.970
$\ln T^1$	-0.061	0.021	-2.905	0.004
$\ln T^2$	-0.066	0.016	-4.151	0.000

Sargan(p-Value): 27.60(1.00)

AR(1)(p-Value): -3.64(0.00)

AR(2)(p-Value): 0.38(0.35)

Table 7.21: Model 21

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.655	0.045	14.684	0.000
γ^1	0.218	0.068	3.232	0.001
γ^2	0.202	0.042	4.809	0.000
Popden	-0.108	0.167	-0.648	0.517
$\ln T^1$	-0.050	0.021	-2.445	0.014
$\ln T^2$	-0.054	0.017	-3.184	0.001

Sargan(p-Value): 28.52(1.00)

AR(1)(p-Value): -3.56(0.00)

AR(2)(p-Value): 0.39(0.35)

Table 7.22: Model 22

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.671	0.043	15.550	0.000
γ^1	0.211	0.065	3.268	0.001
γ^2	0.203	0.041	4.956	0.000
Popden	-0.148	0.162	-0.914	0.360
Car	0.011	0.016	0.724	0.469
$\ln T^1$	-0.050	0.021	-2.395	0.017
$\ln T^2$	-0.055	0.016	-3.360	0.001

Sargan(p-Value): 27.85(1.00)

AR(1)(p-Value): -3.64(0.00)

AR(2)(p-Value): 0.41(0.34)

Table 7.23: Model 23

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.663	0.042	15.948	0.000
γ^1	0.214	0.066	3.241	0.001
γ^2	0.211	0.042	4.971	0.000
Popden	-0.140	0.156	-0.901	0.368
Ind	0.067	0.059	1.127	0.260
$\ln T^1$	-0.052	0.022	-2.320	0.020
$\ln T^2$	-0.057	0.018	-3.189	0.001

Sargan(p-Value): 27.48(1.00)

AR(1)(p-Value): -3.58(0.00)

AR(2)(p-Value): 0.38(0.35)

Table 7.24: Model 24

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.666	0.044	15.202	0.000
γ^1	0.213	0.066	3.252	0.001
γ^2	0.210	0.042	5.014	0.000
Popden	-0.144	0.163	-0.884	0.377
Ind	0.057	0.080	0.718	0.473
Car	0.003	0.023	0.129	0.897
lnT^1	-0.051	0.022	-2.320	0.020
lnT^2	-0.057	0.016	-3.578	0.000

Sargan(p-Value): 27.63(1.00)
AR(1)(p-Value): -3.65(0.00)
AR(2)(p-Value): 0.38(0.35)

Table 7.25: Model 25

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.635	0.047	13.416	0.000
γ^1	0.273	0.069	3.948	0.000
γ^2	0.206	0.043	4.764	0.000
Inc	-0.006	0.022	-0.261	0.794
lnT^1	-0.058	0.021	-2.742	0.006
lnT^2	-0.059	0.018	-3.349	0.001

Sargan(p-Value): 28.23(1.00)
AR(1)(p-Value): -3.56(0.00)
AR(2)(p-Value): 0.40(0.35)

Table 7.26: Model 26

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.628	0.048	13.119	0.000
γ^1	0.232	0.065	3.601	0.000
γ^2	0.169	0.046	3.669	0.000
Inc	-0.138	0.036	-3.871	0.000
Car	0.098	0.023	4.308	0.000
lnT^1	-0.057	0.021	-2.639	0.008
lnT^2	-0.060	0.018	-3.347	0.001

Sargan(p-Value): 27.62(1.00)
AR(1)(p-Value): -3.54(0.00)
AR(2)(p-Value): 0.51(0.31)

Table 7.27: Model 27

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.630	0.049	12.735	0.000
γ^1	0.270	0.068	3.978	0.000
γ^2	0.207	0.044	4.680	0.000
Inc	-0.017	0.038	-0.446	0.656
Ind	0.053	0.102	0.518	0.605
lnT^1	-0.059	0.022	-2.728	0.006
lnT^2	-0.061	0.017	-3.670	0.000

Sargan(p-Value): 27.36(1.00)
AR(1)(p-Value): -3.56(0.00)
AR(2)(p-Value): 0.38(0.35)

Table 7.28: Model 28

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.623	0.051	12.226	0.000
γ^1	0.230	0.063	3.644	0.000
γ^2	0.171	0.047	3.646	0.000
Inc	-0.148	0.048	-3.078	0.002
Ind	0.059	0.105	0.558	0.577
Car	0.097	0.023	4.187	0.000
lnT^1	-0.057	0.022	-2.653	0.008
lnT^2	-0.061	0.017	-3.650	0.000

Sargan(p-Value): 27.43(1.00)
AR(1)(p-Value): -3.53(0.00)
AR(2)(p-Value): 0.47(0.32)

Table 7.29: Model 29

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.634	0.047	13.394	0.000
γ^1	0.267	0.073	3.656	0.000
γ^2	0.203	0.044	4.637	0.000
Inc	-0.002	0.024	-0.098	0.922
Popden	-0.128	0.165	-0.777	0.437
lnT^1	-0.050	0.021	-2.361	0.018
lnT^2	-0.052	0.017	-2.978	0.003

Sargan(p-Value): 28.11(1.00)
AR(1)(p-Value): -3.56(0.00)
AR(2)(p-Value): 0.40(0.35)

Table 7.30: Model 30

	Estimate	Std. Error	z-value	Pr($>|z|$)
ρ	0.627	0.048	13.082	0.000
γ^1	0.226	0.066	3.399	0.001
γ^2	0.166	0.047	3.554	0.000
Inc	-0.134	0.037	-3.643	0.000
$Popden$	-0.138	0.168	-0.821	0.411
Car	0.098	0.023	4.312	0.000
$\ln T^1$	-0.048	0.021	-2.264	0.024
$\ln T^2$	-0.052	0.017	-3.081	0.002

Sargan(p-Value): 27.46(1.00)
AR(1)(p-Value): -3.54(0.00)
AR(2)(p-Value): 0.51(0.31)

Table 7.31: Model 31

	Estimate	Std. Error	z-value	Pr($>|z|$)
ρ	0.630	0.050	12.703	0.000
γ^1	0.264	0.072	3.673	0.000
γ^2	0.205	0.045	4.574	0.000
Inc	-0.012	0.040	-0.312	0.755
$Popden$	-0.123	0.168	-0.731	0.465
Ind	0.048	0.103	0.467	0.641
$\ln T^1$	-0.051	0.022	-2.302	0.021
$\ln T^2$	-0.053	0.016	-3.288	0.001

Sargan(p-Value): 27.53(1.00)
AR(1)(p-Value): -3.57(0.00)
AR(2)(p-Value): 0.38(0.35)

Table 7.32: Model 32

	Estimate	Std. Error	z-value	Pr($>|z|$)
ρ	0.622	0.051	12.201	0.000
γ^1	0.223	0.065	3.424	0.001
γ^2	0.168	0.048	3.542	0.000
Inc	-0.143	0.050	-2.859	0.004
$Popden$	-0.132	0.169	-0.778	0.437
Ind	0.054	0.107	0.505	0.614
Car	0.096	0.023	4.195	0.000
$\ln T^1$	-0.049	0.022	-2.222	0.026
$\ln T^2$	-0.053	0.016	-3.422	0.001

Sargan(p-Value): 27.43(1.00)
AR(1)(p-Value): -3.53(0.00)

AR(2)(p-Value): 0.47(0.32)

Table 7.33: Model 33

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.719	0.054	13.350	0.000
γ^1	0.276	0.087	3.157	0.002
γ^2	0.178	0.050	3.552	0.000
T^1	-0.000	0.003	-0.017	0.987
T^2	-0.004	0.002	-2.251	0.024

Sargan(p-Value): 28.32(1.00)
AR(1)(p-Value): -3.71(0.00)
AR(2)(p-Value): 0.40(0.34)

Table 7.34: Model 34

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.700	0.059	11.806	0.000
γ^1	0.234	0.082	2.852	0.004
γ^2	0.116	0.054	2.166	0.030
Car	0.083	0.028	2.976	0.003
T^1	-0.012	0.006	-2.196	0.028
T^2	-0.016	0.004	-4.126	0.000

Sargan(p-Value): 28.21(1.00)
AR(1)(p-Value): -3.51(0.00)
AR(2)(p-Value): 0.41(0.34)

Table 7.35: Model 35

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.692	0.060	11.490	0.000
γ^1	0.276	0.091	3.023	0.003
γ^2	0.175	0.052	3.337	0.001
Ind	0.156	0.070	2.215	0.027
T^1	-0.004	0.004	-0.878	0.380
T^2	-0.008	0.003	-2.969	0.003

Sargan(p-Value): 28.70(1.00)
AR(1)(p-Value): -3.63(0.00)
AR(2)(p-Value): 0.35(0.36)

Table 7.36: Model 36

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.685	0.064	10.776	0.000
γ^1	0.239	0.085	2.793	0.005
γ^2	0.123	0.055	2.255	0.024
Ind	0.079	0.083	0.948	0.343
Car	0.076	0.032	2.400	0.016
T^1	-0.013	0.005	-2.374	0.018
T^2	-0.017	0.004	-4.447	0.000

Sargan(p-Value): 27.95(1.00)

AR(1)(p-Value): -3.53(0.00)

AR(2)(p-Value): 0.38(0.35)

Table 7.37: Model 37

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.735	0.057	12.834	0.000
γ^1	0.278	0.092	3.016	0.003
γ^2	0.129	0.053	2.429	0.015
$Popden$	-0.575	0.179	-3.215	0.001
T^1	0.009	0.004	2.154	0.031
T^2	-0.001	0.002	-0.268	0.789

Sargan(p-Value): 28.77(1.00)

AR(1)(p-Value): -3.74(0.00)

AR(2)(p-Value): 0.42(0.34)

Table 7.38: Model 38

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.724	0.060	11.987	0.000
γ^1	0.261	0.088	2.950	0.003
γ^2	0.110	0.052	2.108	0.035
$Popden$	-0.468	0.177	-2.643	0.008
Car	0.037	0.027	1.385	0.166
T^1	0.002	0.007	0.314	0.753
T^2	-0.007	0.004	-1.785	0.074

Sargan(p-Value): 27.60(1.00)

AR(1)(p-Value): -3.63(0.00)

AR(2)(p-Value): 0.43(0.34)

Table 7.39: Model 39

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.716	0.061	11.696	0.000
γ^1	0.280	0.094	2.966	0.003
γ^2	0.133	0.055	2.431	0.015
Popden	-0.541	0.198	-2.737	0.006
Ind	0.091	0.080	1.144	0.253
T^1	0.006	0.006	1.142	0.253
T^2	-0.003	0.004	-0.852	0.394

Sargan(p-Value): 27.75(1.00)
AR(1)(p-Value): -3.74(0.00)
AR(2)(p-Value): 0.40(0.34)

Table 7.40: Model 40

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.710	0.064	11.170	0.000
γ^1	0.266	0.090	2.934	0.003
γ^2	0.117	0.053	2.226	0.026
Popden	-0.459	0.187	-2.452	0.014
Ind	0.069	0.086	0.799	0.424
Car	0.032	0.029	1.088	0.277
T^1	0.001	0.007	0.160	0.873
T^2	-0.008	0.004	-1.832	0.067

Sargan(p-Value): 27.40(1.00)
AR(1)(p-Value): -3.66(0.00)
AR(2)(p-Value): 0.40(0.34)

Table 7.41: Model 41

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.728	0.055	13.305	0.000
γ^1	0.283	0.088	3.219	0.001
γ^2	0.153	0.048	3.203	0.001
Inc	0.031	0.063	0.488	0.626
T^1	-0.003	0.008	-0.337	0.736
T^2	-0.007	0.007	-1.082	0.279

Sargan(p-Value): 28.30(1.00)
AR(1)(p-Value): -3.67(0.00)
AR(2)(p-Value): 0.38(0.35)

Table 7.42: Model 42

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.708	0.057	12.397	0.000
γ^1	0.233	0.082	2.863	0.004
γ^2	0.116	0.053	2.189	0.029
Inc	-0.115	0.074	-1.551	0.121
Car	0.115	0.021	5.435	0.000
T^1	-0.004	0.008	-0.543	0.587
T^2	-0.008	0.007	-1.182	0.237

Sargan(p-Value): 28.28(1.00)
AR(1)(p-Value): -3.55(0.00)
AR(2)(p-Value): 0.50(0.31)

Table 7.43: Model 43

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.722	0.059	12.316	0.000
γ^1	0.285	0.089	3.212	0.001
γ^2	0.156	0.049	3.183	0.001
Inc	0.031	0.072	0.428	0.668
Ind	0.017	0.097	0.177	0.860
T^1	-0.003	0.008	-0.396	0.692
T^2	-0.008	0.006	-1.198	0.231

Sargan(p-Value): 27.57(1.00)
AR(1)(p-Value): -3.71(0.00)
AR(2)(p-Value): 0.37(0.36)

Table 7.44: Model 44

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.702	0.062	11.317	0.000
γ^1	0.235	0.082	2.868	0.004
γ^2	0.120	0.054	2.206	0.027
Inc	-0.112	0.080	-1.406	0.160
Ind	0.014	0.101	0.140	0.889
Car	0.114	0.021	5.335	0.000
T^1	-0.005	0.008	-0.609	0.543
T^2	-0.008	0.007	-1.295	0.195

Sargan(p-Value): 28.07(1.00)
AR(1)(p-Value): -3.58(0.00)
AR(2)(p-Value): 0.49(0.31)

Table 7.45: Model 45

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.758	0.060	12.531	0.000
γ^1	0.283	0.097	2.918	0.004
γ^2	0.145	0.050	2.873	0.004
Inc	-0.140	0.078	-1.788	0.074
Popden	-0.880	0.207	-4.247	0.000
T^1	0.028	0.012	2.432	0.015
T^2	0.016	0.008	1.927	0.054

Sargan(p-Value): 27.25(1.00)
AR(1)(p-Value): -3.75(0.00)
AR(2)(p-Value): 0.54(0.29)

Table 7.46: Model 46

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.738	0.060	12.258	0.000
γ^1	0.238	0.089	2.681	0.007
γ^2	0.112	0.055	2.029	0.042
Inc	-0.265	0.081	-3.267	0.001
Popden	-0.837	0.195	-4.282	0.000
Car	0.104	0.023	4.600	0.000
T^1	0.025	0.011	2.200	0.028
T^2	0.014	0.008	1.728	0.084

Sargan(p-Value): 26.97(1.00)
AR(1)(p-Value): -3.64(0.00)
AR(2)(p-Value): 0.66(0.26)

Table 7.47: Model 47

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.744	0.061	12.203	0.000
γ^1	0.284	0.098	2.911	0.004
γ^2	0.149	0.050	2.958	0.003
Inc	-0.156	0.086	-1.812	0.070
Popden	-0.883	0.212	-4.167	0.000
Ind	0.078	0.103	0.755	0.450
T^1	0.028	0.011	2.475	0.013
T^2	0.016	0.008	1.904	0.057

Sargan(p-Value): 26.17(1.00)
AR(1)(p-Value): -3.79(0.00)

AR(2)(p-Value): 0.54(0.29)

Table 7.48: Model 48

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.725	0.062	11.670	0.000
γ^1	0.241	0.090	2.683	0.007
γ^2	0.118	0.055	2.138	0.033
Inc	-0.275	0.086	-3.200	0.001
Popden	-0.839	0.198	-4.228	0.000
Ind	0.072	0.106	0.678	0.498
Car	0.101	0.023	4.436	0.000
T^1	0.025	0.011	2.213	0.027
T^2	0.014	0.008	1.689	0.091

Sargan(p-Value): 26.65(1.00)
AR(1)(p-Value): -3.66(0.00)
AR(2)(p-Value): 0.64(0.26)

8 S_{con} model using inverse distance matrix

Table 8.1: Model 1

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.688	0.071	9.753	0.000
φ	0.302	0.070	4.278	0.000

Sargan(p-Value): 16.93(1.00)
AR(1)(p-Value): -3.70(0.00)
AR(2)(p-Value): 0.40(0.35)

Table 8.2: Model 2

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.681	0.072	9.469	0.000
φ	0.374	0.077	4.849	0.000
Car	0.028	0.012	2.297	0.022

Sargan(p-Value): 14.91(1.00)
AR(1)(p-Value): -3.64(0.00)
AR(2)(p-Value): 0.44(0.33)

Table 8.3: Model 3

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.661	0.076	8.743	0.000
φ	0.385	0.085	4.544	0.000
Ind	0.149	0.052	2.840	0.005

Sargan(p-Value): 18.61(1.00)
AR(1)(p-Value): -3.58(0.00)
AR(2)(p-Value): 0.40(0.34)

Table 8.4: Model 4

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.666	0.078	8.584	0.000
φ	0.392	0.084	4.679	0.000
Ind	0.105	0.080	1.301	0.193
Car	0.012	0.020	0.608	0.543

Sargan(p-Value): 19.25(1.00)
AR(1)(p-Value): -3.56(0.00)
AR(2)(p-Value): 0.42(0.34)

Table 8.5: Model 5

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.661	0.073	9.031	0.000
φ	0.378	0.080	4.706	0.000
Popden	0.219	0.204	1.072	0.284

Sargan(p-Value): 16.24(1.00)
AR(1)(p-Value): -3.77(0.00)
AR(2)(p-Value): 0.43(0.33)

Table 8.6: Model 6

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.668	0.072	9.249	0.000
φ	0.405	0.081	4.973	0.000
Popden	0.117	0.196	0.596	0.551
Car	0.024	0.013	1.861	0.063

Sargan(p-Value): 15.09(1.00)
AR(1)(p-Value): -3.77(0.00)
AR(2)(p-Value): 0.44(0.33)

Table 8.7: Model 7

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.647	0.076	8.552	0.000
φ	0.424	0.088	4.832	0.000
Popden	0.137	0.184	0.743	0.458
Ind	0.132	0.054	2.434	0.015

Sargan(p-Value): 15.97(1.00)
AR(1)(p-Value): -3.66(0.00)
AR(2)(p-Value): 0.42(0.34)

Table 8.8: Model 8

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.651	0.078	8.393	0.000
φ	0.424	0.087	4.874	0.000
Popden	0.121	0.184	0.657	0.511
Ind	0.107	0.085	1.261	0.207
Car	0.007	0.021	0.350	0.727

Sargan(p-Value): 15.51(1.00)
AR(1)(p-Value): -3.66(0.00)
AR(2)(p-Value): 0.42(0.34)

Table 8.9: Model 9

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.694	0.068	10.216	0.000
φ	0.361	0.076	4.766	0.000
Inc	0.032	0.017	1.822	0.068

Sargan(p-Value): 15.74(1.00)
AR(1)(p-Value): -3.68(0.00)
AR(2)(p-Value): 0.41(0.34)

Table 8.10: Model 10

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.680	0.074	9.165	0.000
φ	0.340	0.084	4.043	0.000
Inc	-0.066	0.035	-1.904	0.057
Car	0.072	0.021	3.411	0.001

Sargan(p-Value): 14.05(1.00)
AR(1)(p-Value): -3.61(0.00)
AR(2)(p-Value): 0.48(0.32)

Table 8.11: Model 11

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.677	0.077	8.819	0.000
φ	0.369	0.080	4.602	0.000
Inc	0.010	0.033	0.300	0.764
Ind	0.094	0.094	1.008	0.313

Sargan(p-Value): 19.81(1.00)
AR(1)(p-Value): -3.57(0.00)
AR(2)(p-Value): 0.40(0.34)

Table 8.12: Model 12

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.659	0.085	7.711	0.000
φ	0.348	0.089	3.925	0.000
Inc	-0.097	0.049	-1.971	0.049
Ind	0.109	0.096	1.142	0.253
Car	0.076	0.023	3.362	0.001

Sargan(p-Value): 18.24(1.00)
AR(1)(p-Value): -3.44(0.00)
AR(2)(p-Value): 0.47(0.32)

Table 8.13: Model 13

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.681	0.069	9.847	0.000
φ	0.390	0.080	4.869	0.000
Inc	0.027	0.019	1.415	0.157
Popden	0.112	0.188	0.592	0.554

Sargan(p-Value): 15.83(1.00)
AR(1)(p-Value): -3.82(0.00)
AR(2)(p-Value): 0.42(0.34)

Table 8.14: Model 14

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.667	0.073	9.095	0.000
φ	0.367	0.083	4.428	0.000
Inc	-0.070	0.037	-1.897	0.058
Popden	0.104	0.199	0.523	0.601
Car	0.072	0.021	3.407	0.001

Sargan(p-Value): 14.57(1.00)
AR(1)(p-Value): -3.76(0.00)

AR(2)(p-Value): 0.49(0.31)

Table 8.15: Model 15

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.661	0.078	8.452	0.000
φ	0.400	0.084	4.740	0.000
Inc	0.001	0.035	0.042	0.967
Popden	0.121	0.179	0.677	0.499
Ind	0.105	0.100	1.059	0.290

Sargan(p-Value): 15.60(1.00)
AR(1)(p-Value): -3.67(0.00)
AR(2)(p-Value): 0.41(0.34)

Table 8.16: Model 16

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.644	0.085	7.563	0.000
φ	0.377	0.088	4.285	0.000
Inc	-0.105	0.051	-2.046	0.041
Popden	0.114	0.188	0.607	0.544
Ind	0.120	0.101	1.186	0.235
Car	0.076	0.023	3.312	0.001

Sargan(p-Value): 14.14(1.00)
AR(1)(p-Value): -3.55(0.00)
AR(2)(p-Value): 0.48(0.32)

Table 8.17: Model 17

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.695	0.071	9.793	0.000
φ	0.260	0.082	3.169	0.002
lnT	-0.018	0.013	-1.320	0.187

Sargan(p-Value): 14.51(1.00)
AR(1)(p-Value): -3.72(0.00)
AR(2)(p-Value): 0.39(0.35)

Table 8.18: Model 18

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.690	0.072	9.643	0.000
φ	0.322	0.081	3.951	0.000
Car	0.033	0.013	2.564	0.010
lnT	-0.027	0.015	-1.813	0.070

Sargan(p-Value): 13.61(1.00)
AR(1)(p-Value): -3.67(0.00)
AR(2)(p-Value): 0.42(0.34)

Table 8.19: Model 19

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.666	0.074	8.974	0.000
φ	0.328	0.088	3.733	0.000
Ind	0.181	0.054	3.344	0.001
lnT	-0.032	0.015	-2.092	0.036

Sargan(p-Value): 15.34(1.00)
AR(1)(p-Value): -3.59(0.00)
AR(2)(p-Value): 0.38(0.35)

Table 8.20: Model 20

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.671	0.076	8.847	0.000
φ	0.335	0.086	3.910	0.000
Ind	0.134	0.072	1.874	0.061
Car	0.013	0.019	0.660	0.509
lnT	-0.032	0.015	-2.128	0.033

Sargan(p-Value): 14.57(1.00)
AR(1)(p-Value): -3.58(0.00)
AR(2)(p-Value): 0.40(0.35)

Table 8.21: Model 21

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.656	0.073	8.949	0.000
φ	0.340	0.086	3.955	0.000
Popden	0.387	0.307	1.259	0.208
lnT	-0.041	0.024	-1.722	0.085

Sargan(p-Value): 14.74(1.00)
AR(1)(p-Value): -3.76(0.00)
AR(2)(p-Value): 0.43(0.34)

Table 8.22: Model 22

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.663	0.072	9.196	0.000
φ	0.367	0.086	4.267	0.000
Popden	0.286	0.275	1.038	0.299
Car	0.025	0.013	1.965	0.049
lnT	-0.042	0.022	-1.917	0.055

Sargan(p-Value): 13.90(1.00)
AR(1)(p-Value): -3.76(0.00)
AR(2)(p-Value): 0.44(0.33)

Table 8.23: Model 23

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.638	0.076	8.429	0.000
φ	0.388	0.092	4.226	0.000
Popden	0.323	0.268	1.206	0.228
Ind	0.159	0.056	2.826	0.005
lnT	-0.049	0.023	-2.172	0.030

Sargan(p-Value): 15.59(1.00)
AR(1)(p-Value): -3.63(0.00)
AR(2)(p-Value): 0.41(0.34)

Table 8.24: Model 24

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.637	0.076	8.370	0.000
φ	0.388	0.092	4.232	0.000
Popden	0.321	0.254	1.262	0.207
Ind	0.158	0.081	1.953	0.051
Car	0.000	0.020	0.018	0.986
lnT	-0.049	0.021	-2.334	0.020

Sargan(p-Value): 15.60(1.00)
AR(1)(p-Value): -3.64(0.00)
AR(2)(p-Value): 0.41(0.34)

Table 8.25: Model 25

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.704	0.067	10.429	0.000
φ	0.313	0.078	4.009	0.000
Inc	0.038	0.018	2.074	0.038
lnT	-0.026	0.015	-1.759	0.079

Sargan(p-Value): 14.32(1.00)

AR(1)(p-Value): -3.71(0.00)
AR(2)(p-Value): 0.39(0.35)

Table 8.26: Model 26

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.689	0.074	9.358	0.000
φ	0.292	0.086	3.380	0.001
Inc	-0.060	0.036	-1.697	0.090
Car	0.072	0.021	3.418	0.001
lnT	-0.026	0.015	-1.778	0.075

Sargan(p-Value): 12.92(1.00)
AR(1)(p-Value): -3.64(0.00)
AR(2)(p-Value): 0.46(0.32)

Table 8.27: Model 27

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.683	0.075	9.092	0.000
φ	0.315	0.081	3.872	0.000
Inc	0.010	0.032	0.320	0.749
Ind	0.124	0.084	1.469	0.142
lnT	-0.030	0.015	-2.037	0.042

Sargan(p-Value): 13.87(1.00)
AR(1)(p-Value): -3.60(0.00)
AR(2)(p-Value): 0.38(0.35)

Table 8.28: Model 28

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.664	0.084	7.896	0.000
φ	0.292	0.090	3.253	0.001
Inc	-0.100	0.048	-2.055	0.040
Ind	0.141	0.087	1.612	0.107
Car	0.078	0.023	3.425	0.001
lnT	-0.031	0.015	-2.072	0.038

Sargan(p-Value): 12.80(1.00)
AR(1)(p-Value): -3.46(0.00)
AR(2)(p-Value): 0.44(0.33)

Table 8.29: Model 29

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.676	0.069	9.804	0.000
φ	0.353	0.084	4.225	0.000
Inc	0.028	0.019	1.507	0.132
Popden	0.274	0.264	1.042	0.298
lnT	-0.041	0.021	-1.899	0.058

Sargan(p-Value): 13.96(1.00)
AR(1)(p-Value): -3.81(0.00)
AR(2)(p-Value): 0.41(0.34)

Table 8.30: Model 30

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.663	0.073	9.045	0.000
φ	0.332	0.087	3.810	0.000
Inc	-0.067	0.038	-1.778	0.075
Popden	0.265	0.275	0.966	0.334
Car	0.070	0.021	3.280	0.001
lnT	-0.040	0.021	-1.879	0.060

Sargan(p-Value): 13.82(1.00)
AR(1)(p-Value): -3.75(0.00)
AR(2)(p-Value): 0.48(0.32)

Table 8.31: Model 31

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.645	0.077	8.395	0.000
φ	0.362	0.090	4.035	0.000
Inc	-0.010	0.033	-0.309	0.757
Popden	0.318	0.247	1.285	0.199
Ind	0.161	0.094	1.713	0.087
lnT	-0.048	0.021	-2.321	0.020

Sargan(p-Value): 14.96(1.00)
AR(1)(p-Value): -3.65(0.00)
AR(2)(p-Value): 0.40(0.34)

Table 8.32: Model 32

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.627	0.084	7.425	0.000
φ	0.339	0.094	3.611	0.000
Inc	-0.119	0.052	-2.300	0.021
Popden	0.312	0.258	1.210	0.226
Ind	0.177	0.097	1.835	0.066
Car	0.077	0.024	3.192	0.001
lnT	-0.048	0.021	-2.324	0.020

Sargan(p-Value): 14.10(1.00)
AR(1)(p-Value): -3.52(0.00)
AR(2)(p-Value): 0.45(0.32)

Table 8.33: Model 33

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.692	0.068	10.114	0.000
φ	0.391	0.077	5.111	0.000
T	0.004	0.002	2.074	0.038

Sargan(p-Value): 15.45(1.00)
AR(1)(p-Value): -3.66(0.00)
AR(2)(p-Value): 0.44(0.33)

Table 8.34: Model 34

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.684	0.071	9.579	0.000
φ	0.378	0.080	4.699	0.000
Car	0.021	0.027	0.801	0.423
T	0.001	0.005	0.213	0.831

Sargan(p-Value): 14.42(1.00)
AR(1)(p-Value): -3.57(0.00)
AR(2)(p-Value): 0.43(0.33)

Table 8.35: Model 35

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.673	0.076	8.898	0.000
φ	0.394	0.080	4.907	0.000
Ind	0.091	0.077	1.180	0.238
T	0.002	0.003	0.602	0.547

Sargan(p-Value): 18.33(1.00)
AR(1)(p-Value): -3.52(0.00)

AR(2)(p-Value): 0.42(0.34)

Table 8.36: Model 36

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.670	0.077	8.719	0.000
φ	0.387	0.083	4.660	0.000
Ind	0.080	0.081	0.993	0.321
Car	0.012	0.028	0.436	0.663
T	0.000	0.005	0.080	0.936

Sargan(p-Value): 17.36(1.00)
AR(1)(p-Value): -3.48(0.00)
AR(2)(p-Value): 0.42(0.34)

Table 8.37: Model 37

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.682	0.068	10.090	0.000
φ	0.405	0.079	5.106	0.000
Popden	0.077	0.193	0.397	0.691
T	0.004	0.002	1.629	0.103

Sargan(p-Value): 15.75(1.00)
AR(1)(p-Value): -3.83(0.00)
AR(2)(p-Value): 0.44(0.33)

Table 8.38: Model 38

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.665	0.070	9.538	0.000
φ	0.394	0.085	4.638	0.000
Popden	0.122	0.205	0.596	0.551
Car	0.031	0.027	1.173	0.241
T	-0.001	0.005	-0.307	0.759

Sargan(p-Value): 14.82(1.00)
AR(1)(p-Value): -3.74(0.00)
AR(2)(p-Value): 0.44(0.33)

Table 8.39: Model 39

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.658	0.076	8.712	0.000
φ	0.413	0.084	4.938	0.000
Popden	0.101	0.185	0.545	0.586
Ind	0.100	0.082	1.224	0.221
T	0.001	0.004	0.253	0.800

Sargan(p-Value): 16.10(1.00)
AR(1)(p-Value): -3.65(0.00)
AR(2)(p-Value): 0.42(0.34)

Table 8.40: Model 40

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.650	0.076	8.554	0.000
φ	0.404	0.088	4.605	0.000
Popden	0.127	0.192	0.659	0.510
Ind	0.085	0.089	0.951	0.341
Car	0.021	0.028	0.741	0.459
T	-0.002	0.005	-0.426	0.670

Sargan(p-Value): 15.68(1.00)
AR(1)(p-Value): -3.61(0.00)
AR(2)(p-Value): 0.42(0.34)

Table 8.41: Model 41

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.702	0.066	10.625	0.000
φ	0.394	0.074	5.305	0.000
Inc	-0.042	0.053	-0.779	0.436
T	0.009	0.006	1.396	0.163

Sargan(p-Value): 15.18(1.00)
AR(1)(p-Value): -3.63(0.00)
AR(2)(p-Value): 0.47(0.32)

Table 8.42: Model 42

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.688	0.072	9.575	0.000
φ	0.371	0.081	4.572	0.000
Inc	-0.117	0.057	-2.052	0.040
Car	0.063	0.021	2.943	0.003
T	0.007	0.006	1.182	0.237

Sargan(p-Value): 14.84(1.00)

AR(1)(p-Value): -3.56(0.00)
AR(2)(p-Value): 0.53(0.30)

Table 8.43: Model 43

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.685	0.073	9.395	0.000
φ	0.405	0.078	5.204	0.000
Inc	-0.072	0.060	-1.210	0.226
Ind	0.102	0.090	1.128	0.259
T	0.009	0.006	1.584	0.113

Sargan(p-Value): 16.11(1.00)
AR(1)(p-Value): -3.55(0.00)
AR(2)(p-Value): 0.48(0.32)

Table 8.44: Model 44

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.669	0.080	8.349	0.000
φ	0.382	0.084	4.519	0.000
Inc	-0.152	0.065	-2.329	0.020
Ind	0.109	0.093	1.177	0.239
Car	0.064	0.023	2.796	0.005
T	0.008	0.006	1.364	0.173

Sargan(p-Value): 14.66(1.00)
AR(1)(p-Value): -3.45(0.00)
AR(2)(p-Value): 0.53(0.30)

Table 8.45: Model 45

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.699	0.061	11.376	0.000
φ	0.393	0.075	5.219	0.000
Inc	-0.029	0.050	-0.585	0.559
Popden	0.015	0.174	0.086	0.931
T	0.007	0.006	1.240	0.215

Sargan(p-Value): 15.31(1.00)
AR(1)(p-Value): -3.82(0.00)
AR(2)(p-Value): 0.46(0.32)

Table 8.46: Model 46

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.683	0.066	10.342	0.000
φ	0.371	0.080	4.665	0.000
Inc	-0.106	0.052	-2.047	0.041
Popden	0.025	0.188	0.131	0.896
Car	0.065	0.022	2.975	0.003
T	0.006	0.006	0.961	0.337

Sargan(p-Value): 14.82(1.00)
AR(1)(p-Value): -3.76(0.00)
AR(2)(p-Value): 0.52(0.30)

Table 8.47: Model 47

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.683	0.069	9.954	0.000
φ	0.403	0.078	5.146	0.000
Inc	-0.065	0.056	-1.159	0.246
Popden	0.004	0.162	0.022	0.983
Ind	0.106	0.091	1.171	0.242
T	0.008	0.005	1.569	0.117

Sargan(p-Value): 14.59(1.00)
AR(1)(p-Value): -3.72(0.00)
AR(2)(p-Value): 0.47(0.32)

Table 8.48: Model 48

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.665	0.075	8.906	0.000
φ	0.381	0.083	4.600	0.000
Inc	-0.146	0.061	-2.404	0.016
Popden	0.013	0.174	0.073	0.942
Ind	0.113	0.094	1.204	0.229
Car	0.066	0.023	2.860	0.004
T	0.007	0.006	1.272	0.203

Sargan(p-Value): 13.36(1.00)
AR(1)(p-Value): -3.63(0.00)
AR(2)(p-Value): 0.52(0.30)

9 S_{con} model using rook contiguity matrix

Table 9.1: Model 1

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.675	0.052	13.008	0.000
φ	0.310	0.051	6.025	0.000

Sargan(p-Value): 23.83(1.00)
AR(1)(p-Value): -3.69(0.00)
AR(2)(p-Value): 0.26(0.40)

Table 9.2: Model 2

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.682	0.050	13.739	0.000
φ	0.332	0.059	5.664	0.000
Car	0.013	0.013	1.039	0.299

Sargan(p-Value): 23.28(1.00)
AR(1)(p-Value): -3.68(0.00)
AR(2)(p-Value): 0.27(0.39)

Table 9.3: Model 3

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.677	0.049	13.751	0.000
φ	0.323	0.057	5.628	0.000
Ind	0.044	0.056	0.797	0.426

Sargan(p-Value): 23.58(1.00)
AR(1)(p-Value): -3.68(0.00)
AR(2)(p-Value): 0.26(0.40)

Table 9.4: Model 4

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.682	0.051	13.373	0.000
φ	0.333	0.059	5.607	0.000
Ind	-0.037	0.082	-0.449	0.653
Car	0.020	0.020	0.967	0.334

Sargan(p-Value): 23.02(1.00)
AR(1)(p-Value): -3.68(0.00)
AR(2)(p-Value): 0.28(0.39)

Table 9.5: Model 5

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.674	0.052	12.873	0.000
φ	0.302	0.061	4.949	0.000
Popden	-0.034	0.135	-0.253	0.800

Sargan(p-Value): 21.42(1.00)
AR(1)(p-Value): -3.70(0.00)
AR(2)(p-Value): 0.26(0.40)

Table 9.6: Model 6

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.687	0.050	13.674	0.000
φ	0.313	0.061	5.103	0.000
Popden	-0.111	0.149	-0.748	0.454
Car	0.018	0.015	1.204	0.229

Sargan(p-Value): 20.74(1.00)
AR(1)(p-Value): -3.71(0.00)
AR(2)(p-Value): 0.28(0.39)

Table 9.7: Model 7

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.679	0.050	13.666	0.000
φ	0.311	0.062	4.995	0.000
Popden	-0.069	0.138	-0.505	0.614
Ind	0.057	0.060	0.949	0.342

Sargan(p-Value): 20.33(1.00)
AR(1)(p-Value): -3.70(0.00)
AR(2)(p-Value): 0.26(0.40)

Table 9.8: Model 8

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.686	0.051	13.440	0.000
φ	0.314	0.062	5.099	0.000
Popden	-0.109	0.152	-0.716	0.474
Ind	-0.031	0.080	-0.395	0.693
Car	0.023	0.021	1.099	0.272

Sargan(p-Value): 19.38(1.00)
AR(1)(p-Value): -3.72(0.00)
AR(2)(p-Value): 0.28(0.39)

Table 9.9: Model 9

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.679	0.050	13.629	0.000
φ	0.320	0.062	5.182	0.000
Inc	0.007	0.019	0.378	0.706

Sargan(p-Value): 23.53(1.00)
AR(1)(p-Value): -3.69(0.00)
AR(2)(p-Value): 0.26(0.40)

Table 9.10: Model 10

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.663	0.052	12.842	0.000
φ	0.297	0.068	4.379	0.000
Inc	-0.104	0.035	-2.944	0.003
Car	0.082	0.021	3.816	0.000

Sargan(p-Value): 17.90(1.00)
AR(1)(p-Value): -3.63(0.00)
AR(2)(p-Value): 0.36(0.36)

Table 9.11: Model 11

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.683	0.053	12.850	0.000
φ	0.325	0.062	5.271	0.000
Inc	0.025	0.033	0.738	0.461
Ind	-0.074	0.095	-0.778	0.436

Sargan(p-Value): 23.52(1.00)
AR(1)(p-Value): -3.67(0.00)
AR(2)(p-Value): 0.26(0.40)

Table 9.12: Model 12

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.667	0.056	12.003	0.000
φ	0.302	0.068	4.453	0.000
Inc	-0.083	0.048	-1.746	0.081
Ind	-0.074	0.099	-0.745	0.456
Car	0.080	0.022	3.558	0.000

Sargan(p-Value): 16.31(1.00)
AR(1)(p-Value): -3.60(0.00)
AR(2)(p-Value): 0.36(0.36)

Table 9.13: Model 13

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.684	0.051	13.469	0.000
φ	0.301	0.063	4.771	0.000
Inc	0.014	0.022	0.641	0.522
Popden	-0.129	0.145	-0.891	0.373

Sargan(p-Value): 20.49(1.00)
AR(1)(p-Value): -3.73(0.00)
AR(2)(p-Value): 0.26(0.40)

Table 9.14: Model 14

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.668	0.051	13.007	0.000
φ	0.275	0.067	4.139	0.000
Inc	-0.100	0.037	-2.741	0.006
Popden	-0.138	0.153	-0.900	0.368
Car	0.084	0.021	4.026	0.000

Sargan(p-Value): 12.22(1.00)
AR(1)(p-Value): -3.67(0.00)
AR(2)(p-Value): 0.36(0.36)

Table 9.15: Model 15

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.687	0.053	12.943	0.000
φ	0.306	0.062	4.893	0.000
Inc	0.030	0.034	0.876	0.381
Popden	-0.127	0.151	-0.839	0.401
Ind	-0.068	0.091	-0.750	0.453

Sargan(p-Value): 20.75(1.00)
AR(1)(p-Value): -3.72(0.00)
AR(2)(p-Value): 0.26(0.40)

Table 9.16: Model 16

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.672	0.054	12.359	0.000
φ	0.281	0.066	4.259	0.000
Inc	-0.081	0.048	-1.695	0.090
Popden	-0.135	0.159	-0.847	0.397
Ind	-0.068	0.094	-0.718	0.473
Car	0.082	0.022	3.763	0.000

Sargan(p-Value): 11.94(1.00)

AR(1)(p-Value): -3.65(0.00)
AR(2)(p-Value): 0.37(0.36)

Table 9.17: Model 17

	Estimate	Std. Error	z-value	Pr($>|z|$)
ρ	0.673	0.052	12.887	0.000
φ	0.253	0.061	4.137	0.000
lnT	-0.030	0.012	-2.439	0.015

Sargan(p-Value): 21.10(1.00)
AR(1)(p-Value): -3.69(0.00)
AR(2)(p-Value): 0.27(0.39)

Table 9.18: Model 18

	Estimate	Std. Error	z-value	Pr($>|z|$)
ρ	0.685	0.050	13.739	0.000
φ	0.274	0.061	4.480	0.000
Car	0.021	0.014	1.535	0.125
lnT	-0.037	0.014	-2.603	0.009

Sargan(p-Value): 20.60(1.00)
AR(1)(p-Value): -3.67(0.00)
AR(2)(p-Value): 0.29(0.39)

Table 9.19: Model 19

	Estimate	Std. Error	z-value	Pr($>|z|$)
ρ	0.678	0.049	13.800	0.000
φ	0.265	0.060	4.394	0.000
Ind	0.087	0.056	1.535	0.125
lnT	-0.037	0.014	-2.668	0.008

Sargan(p-Value): 22.47(1.00)
AR(1)(p-Value): -3.67(0.00)
AR(2)(p-Value): 0.26(0.40)

Table 9.20: Model 20

	Estimate	Std. Error	z-value	Pr($>|z|$)
ρ	0.684	0.050	13.553	0.000
φ	0.276	0.061	4.545	0.000
Ind	0.000	0.071	0.007	0.995
Car	0.021	0.020	1.081	0.280
lnT	-0.037	0.014	-2.735	0.006

Sargan(p-Value): 19.58(1.00)

AR(1)(p-Value): -3.67(0.00)
AR(2)(p-Value): 0.28(0.39)

Table 9.21: Model 21

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.669	0.053	12.620	0.000
φ	0.271	0.065	4.153	0.000
Popden	0.154	0.209	0.737	0.461
lnT	-0.040	0.018	-2.279	0.023

Sargan(p-Value): 21.86(1.00)
AR(1)(p-Value): -3.69(0.00)
AR(2)(p-Value): 0.27(0.39)

Table 9.22: Model 22

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.682	0.051	13.447	0.000
φ	0.282	0.064	4.409	0.000
Popden	0.079	0.190	0.418	0.676
Car	0.019	0.014	1.371	0.171
lnT	-0.042	0.017	-2.517	0.012

Sargan(p-Value): 20.13(1.00)
AR(1)(p-Value): -3.70(0.00)
AR(2)(p-Value): 0.28(0.39)

Table 9.23: Model 23

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.674	0.050	13.528	0.000
φ	0.279	0.064	4.346	0.000
Popden	0.127	0.190	0.669	0.503
Ind	0.079	0.056	1.429	0.153
lnT	-0.045	0.018	-2.555	0.011

Sargan(p-Value): 22.76(1.00)
AR(1)(p-Value): -3.68(0.00)
AR(2)(p-Value): 0.26(0.40)

Table 9.24: Model 24

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.680	0.051	13.279	0.000
φ	0.283	0.064	4.448	0.000
Popden	0.083	0.187	0.447	0.655
Ind	0.011	0.072	0.158	0.875
Car	0.018	0.020	0.882	0.378
lnT	-0.042	0.015	-2.770	0.006

Sargan(p-Value): 20.11(1.00)
AR(1)(p-Value): -3.70(0.00)
AR(2)(p-Value): 0.28(0.39)

Table 9.25: Model 25

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.685	0.050	13.767	0.000
φ	0.268	0.062	4.298	0.000
Inc	0.018	0.020	0.893	0.372
lnT	-0.035	0.015	-2.410	0.016

Sargan(p-Value): 21.53(1.00)
AR(1)(p-Value): -3.68(0.00)
AR(2)(p-Value): 0.27(0.39)

Table 9.26: Model 26

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.669	0.052	12.799	0.000
φ	0.241	0.068	3.529	0.000
Inc	-0.100	0.034	-2.962	0.003
Car	0.087	0.020	4.252	0.000
lnT	-0.036	0.014	-2.501	0.012

Sargan(p-Value): 11.56(1.00)
AR(1)(p-Value): -3.61(0.00)
AR(2)(p-Value): 0.37(0.36)

Table 9.27: Model 27

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.686	0.052	13.249	0.000
φ	0.271	0.062	4.406	0.000
Inc	0.024	0.032	0.747	0.455
Ind	-0.026	0.085	-0.308	0.758
lnT	-0.034	0.014	-2.504	0.012

Sargan(p-Value): 21.38(1.00)

AR(1)(p-Value): -3.67(0.00)
AR(2)(p-Value): 0.27(0.39)

Table 9.28: Model 28

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.670	0.055	12.221	0.000
φ	0.245	0.067	3.648	0.000
Inc	-0.091	0.045	-2.009	0.044
Ind	-0.022	0.089	-0.247	0.805
Car	0.085	0.021	3.990	0.000
lnT	-0.035	0.014	-2.581	0.010

Sargan(p-Value): 11.18(1.00)
AR(1)(p-Value): -3.59(0.00)
AR(2)(p-Value): 0.36(0.36)

Table 9.29: Model 29

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.681	0.051	13.397	0.000
φ	0.272	0.064	4.228	0.000
Inc	0.016	0.020	0.805	0.421
Popden	0.040	0.175	0.228	0.819
lnT	-0.038	0.016	-2.322	0.020

Sargan(p-Value): 21.72(1.00)
AR(1)(p-Value): -3.72(0.00)
AR(2)(p-Value): 0.27(0.39)

Table 9.30: Model 30

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.665	0.052	12.718	0.000
φ	0.245	0.068	3.583	0.000
Inc	-0.101	0.034	-2.919	0.004
Popden	0.034	0.187	0.181	0.857
Car	0.087	0.020	4.263	0.000
lnT	-0.038	0.016	-2.359	0.018

Sargan(p-Value): 11.74(1.00)
AR(1)(p-Value): -3.66(0.00)
AR(2)(p-Value): 0.37(0.36)

Table 9.31: Model 31

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.682	0.053	12.919	0.000
φ	0.275	0.064	4.298	0.000
Inc	0.020	0.033	0.607	0.544
Popden	0.040	0.175	0.226	0.821
Ind	-0.013	0.085	-0.157	0.875
lnT	-0.037	0.015	-2.545	0.011

Sargan(p-Value): 21.64(1.00)

AR(1)(p-Value): -3.70(0.00)

AR(2)(p-Value): 0.27(0.40)

Table 9.32: Model 32

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.666	0.055	12.143	0.000
φ	0.248	0.068	3.667	0.000
Inc	-0.095	0.046	-2.067	0.039
Popden	0.034	0.186	0.185	0.853
Ind	-0.010	0.089	-0.111	0.911
Car	0.085	0.021	4.040	0.000
lnT	-0.038	0.015	-2.570	0.010

Sargan(p-Value): 11.48(1.00)

AR(1)(p-Value): -3.63(0.00)

AR(2)(p-Value): 0.36(0.36)

Table 9.33: Model 33

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.679	0.056	12.134	0.000
φ	0.330	0.063	5.236	0.000
T	0.001	0.002	0.614	0.539

Sargan(p-Value): 24.73(1.00)

AR(1)(p-Value): -3.63(0.00)

AR(2)(p-Value): 0.26(0.40)

Table 9.34: Model 34

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.666	0.058	11.475	0.000
φ	0.303	0.066	4.614	0.000
Car	0.042	0.027	1.548	0.122
T	-0.005	0.004	-1.239	0.215

Sargan(p-Value): 23.30(1.00)

AR(1)(p-Value): -3.54(0.00)
AR(2)(p-Value): 0.27(0.39)

Table 9.35: Model 35

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.676	0.057	11.877	0.000
φ	0.331	0.064	5.182	0.000
Ind	0.007	0.069	0.106	0.916
T	0.001	0.003	0.327	0.744

Sargan(p-Value): 24.73(1.00)
AR(1)(p-Value): -3.61(0.00)
AR(2)(p-Value): 0.26(0.40)

Table 9.36: Model 36

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.666	0.059	11.220	0.000
φ	0.304	0.067	4.563	0.000
Ind	-0.039	0.080	-0.485	0.628
Car	0.048	0.031	1.573	0.116
T	-0.005	0.004	-1.198	0.231

Sargan(p-Value): 22.82(1.00)
AR(1)(p-Value): -3.54(0.00)
AR(2)(p-Value): 0.29(0.39)

Table 9.37: Model 37

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.689	0.055	12.581	0.000
φ	0.317	0.061	5.165	0.000
Popden	-0.122	0.172	-0.710	0.477
T	0.002	0.002	0.974	0.330

Sargan(p-Value): 21.25(1.00)
AR(1)(p-Value): -3.72(0.00)
AR(2)(p-Value): 0.27(0.39)

Table 9.38: Model 38

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.672	0.055	12.290	0.000
φ	0.299	0.066	4.539	0.000
Popden	-0.060	0.175	-0.345	0.730
Car	0.039	0.025	1.591	0.112
T	-0.004	0.004	-1.041	0.298

Sargan(p-Value): 18.82(1.00)
AR(1)(p-Value): -3.65(0.00)
AR(2)(p-Value): 0.28(0.39)

Table 9.39: Model 39

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.687	0.056	12.344	0.000
φ	0.318	0.062	5.113	0.000
Popden	-0.120	0.177	-0.679	0.497
Ind	0.006	0.070	0.090	0.928
T	0.002	0.003	0.578	0.563

Sargan(p-Value): 20.67(1.00)
AR(1)(p-Value): -3.70(0.00)
AR(2)(p-Value): 0.27(0.39)

Table 9.40: Model 40

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.671	0.056	12.089	0.000
φ	0.300	0.066	4.518	0.000
Popden	-0.058	0.180	-0.323	0.747
Ind	-0.034	0.077	-0.439	0.661
Car	0.044	0.026	1.699	0.089
T	-0.004	0.004	-0.980	0.327

Sargan(p-Value): 16.28(1.00)
AR(1)(p-Value): -3.65(0.00)
AR(2)(p-Value): 0.29(0.39)

Table 9.41: Model 41

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.685	0.056	12.224	0.000
φ	0.333	0.061	5.491	0.000
Inc	-0.022	0.057	-0.396	0.692
T	0.004	0.006	0.588	0.556

Sargan(p-Value): 23.61(1.00)

AR(1)(p-Value): -3.60(0.00)
AR(2)(p-Value): 0.28(0.39)

Table 9.42: Model 42

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.667	0.059	11.314	0.000
φ	0.306	0.066	4.630	0.000
Inc	-0.121	0.064	-1.877	0.061
Car	0.080	0.022	3.598	0.000
T	0.002	0.006	0.378	0.706

Sargan(p-Value): 17.34(1.00)
AR(1)(p-Value): -3.53(0.00)
AR(2)(p-Value): 0.37(0.36)

Table 9.43: Model 43

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.688	0.057	11.978	0.000
φ	0.334	0.061	5.429	0.000
Inc	-0.001	0.071	-0.015	0.988
Ind	-0.060	0.098	-0.609	0.542
T	0.003	0.006	0.448	0.654

Sargan(p-Value): 23.87(1.00)
AR(1)(p-Value): -3.61(0.00)
AR(2)(p-Value): 0.28(0.39)

Table 9.44: Model 44

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.670	0.061	11.042	0.000
φ	0.307	0.068	4.547	0.000
Inc	-0.096	0.079	-1.218	0.223
Ind	-0.064	0.100	-0.636	0.525
Car	0.079	0.023	3.422	0.001
T	0.001	0.006	0.233	0.816

Sargan(p-Value): 16.40(1.00)
AR(1)(p-Value): -3.53(0.00)
AR(2)(p-Value): 0.37(0.35)

Table 9.45: Model 45

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.704	0.054	13.034	0.000
φ	0.315	0.059	5.326	0.000
Inc	-0.047	0.049	-0.974	0.330
Popden	-0.219	0.147	-1.488	0.137
T	0.008	0.005	1.528	0.127

Sargan(p-Value): 19.36(1.00)
AR(1)(p-Value): -3.69(0.00)
AR(2)(p-Value): 0.31(0.38)

Table 9.46: Model 46

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.686	0.055	12.392	0.000
φ	0.288	0.064	4.528	0.000
Inc	-0.147	0.053	-2.760	0.006
Popden	-0.212	0.155	-1.369	0.171
Car	0.082	0.023	3.581	0.000
T	0.007	0.005	1.255	0.209

Sargan(p-Value): 12.88(1.00)
AR(1)(p-Value): -3.62(0.00)
AR(2)(p-Value): 0.40(0.34)

Table 9.47: Model 47

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.704	0.054	12.942	0.000
φ	0.316	0.060	5.307	0.000
Inc	-0.033	0.057	-0.583	0.560
Popden	-0.206	0.145	-1.421	0.155
Ind	-0.029	0.085	-0.336	0.737
T	0.007	0.005	1.400	0.161

Sargan(p-Value): 16.39(1.00)
AR(1)(p-Value): -3.70(0.00)
AR(2)(p-Value): 0.31(0.38)

Table 9.48: Model 48

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.686	0.056	12.256	0.000
φ	0.290	0.064	4.514	0.000
Inc	-0.129	0.064	-1.995	0.046
Popden	-0.196	0.154	-1.272	0.203
Ind	-0.034	0.088	-0.391	0.696
Car	0.080	0.023	3.448	0.001
T	0.006	0.005	1.091	0.275

Sargan(p-Value): 12.40(1.00)
AR(1)(p-Value): -3.62(0.00)
AR(2)(p-Value): 0.40(0.35)

10 $S_{con\text{-}g}$ model using inverse distance matrix

Table 10.1: Model 1

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.723	0.046	15.575	0.000
φ^1	0.271	0.067	4.071	0.000
φ^2	0.267	0.045	5.942	0.000

Sargan(p-Value): 12.73(1.00)
AR(1)(p-Value): -3.78(0.00)
AR(2)(p-Value): 0.40(0.34)

Table 10.2: Model 2

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.718	0.048	15.100	0.000
φ^1	0.339	0.074	4.574	0.000
φ^2	0.331	0.056	5.890	0.000
Car	0.026	0.011	2.477	0.013

Sargan(p-Value): 12.02(1.00)
AR(1)(p-Value): -3.74(0.00)
AR(2)(p-Value): 0.44(0.33)

Table 10.3: Model 3

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.689	0.053	13.129	0.000
φ^1	0.349	0.077	4.562	0.000
φ^2	0.361	0.062	5.791	0.000
Ind	0.147	0.047	3.099	0.002

Sargan(p-Value): 14.20(1.00)

AR(1)(p-Value): -3.69(0.00)

AR(2)(p-Value): 0.41(0.34)

Table 10.4: Model 4

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.692	0.053	13.179	0.000
φ^1	0.355	0.078	4.578	0.000
φ^2	0.364	0.063	5.807	0.000
Ind	0.128	0.064	1.992	0.046
Car	0.006	0.016	0.362	0.718

Sargan(p-Value): 13.03(1.00)

AR(1)(p-Value): -3.69(0.00)

AR(2)(p-Value): 0.42(0.34)

Table 10.5: Model 5

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.718	0.050	14.394	0.000
φ^1	0.294	0.082	3.612	0.000
φ^2	0.283	0.058	4.891	0.000
Popden	0.061	0.140	0.437	0.662

Sargan(p-Value): 11.72(1.00)

AR(1)(p-Value): -3.83(0.00)

AR(2)(p-Value): 0.41(0.34)

Table 10.6: Model 6

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.720	0.050	14.460	0.000
φ^1	0.330	0.084	3.947	0.000
φ^2	0.326	0.060	5.411	0.000
Popden	-0.034	0.142	-0.241	0.810
Car	0.028	0.011	2.454	0.014

Sargan(p-Value): 11.53(1.00)

AR(1)(p-Value): -3.80(0.00)

AR(2)(p-Value): 0.44(0.33)

Table 10.7: Model 7

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.690	0.054	12.768	0.000
φ^1	0.346	0.091	3.798	0.000
φ^2	0.360	0.068	5.253	0.000
Popden	-0.013	0.142	-0.092	0.927
Ind	0.149	0.046	3.210	0.001

Sargan(p-Value): 12.83(1.00)
AR(1)(p-Value): -3.72(0.00)
AR(2)(p-Value): 0.41(0.34)

Table 10.8: Model 8

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.694	0.055	12.603	0.000
φ^1	0.348	0.090	3.855	0.000
φ^2	0.360	0.067	5.339	0.000
Popden	-0.027	0.146	-0.184	0.854
Ind	0.128	0.063	2.040	0.041
Car	0.007	0.017	0.407	0.684

Sargan(p-Value): 12.69(1.00)
AR(1)(p-Value): -3.75(0.00)
AR(2)(p-Value): 0.42(0.34)

Table 10.9: Model 9

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.729	0.044	16.398	0.000
φ^1	0.326	0.073	4.452	0.000
φ^2	0.319	0.058	5.481	0.000
Inc	0.029	0.015	1.903	0.057

Sargan(p-Value): 11.50(1.00)
AR(1)(p-Value): -3.76(0.00)
AR(2)(p-Value): 0.41(0.34)

Table 10.10: Model 10

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.717	0.047	15.155	0.000
φ^1	0.307	0.083	3.683	0.000
φ^2	0.299	0.064	4.707	0.000
Inc	-0.060	0.038	-1.572	0.116
Car	0.066	0.024	2.707	0.007

Sargan(p-Value): 9.69(1.00)
AR(1)(p-Value): -3.74(0.00)
AR(2)(p-Value): 0.48(0.32)

Table 10.11: Model 11

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.699	0.051	13.600	0.000
φ^1	0.328	0.077	4.269	0.000
φ^2	0.340	0.063	5.401	0.000
Inc	-0.004	0.027	-0.145	0.885
Ind	0.135	0.074	1.822	0.068

Sargan(p-Value): 11.54(1.00)
AR(1)(p-Value): -3.69(0.00)
AR(2)(p-Value): 0.41(0.34)

Table 10.12: Model 12

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.681	0.056	12.176	0.000
φ^1	0.306	0.087	3.519	0.000
φ^2	0.320	0.069	4.666	0.000
Inc	-0.110	0.049	-2.236	0.025
Ind	0.155	0.075	2.055	0.040
Car	0.075	0.026	2.895	0.004

Sargan(p-Value): 9.56(1.00)
AR(1)(p-Value): -3.64(0.00)
AR(2)(p-Value): 0.48(0.32)

Table 10.13: Model 13

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.730	0.047	15.369	0.000
φ^1	0.324	0.082	3.961	0.000
φ^2	0.318	0.062	5.154	0.000
Inc	0.030	0.016	1.845	0.065
Popden	-0.014	0.142	-0.097	0.923

Sargan(p-Value): 11.47(1.00)
AR(1)(p-Value): -3.83(0.00)
AR(2)(p-Value): 0.41(0.34)

Table 10.14: Model 14

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.718	0.049	14.511	0.000
φ^1	0.299	0.089	3.355	0.001
φ^2	0.295	0.066	4.496	0.000
Inc	-0.062	0.039	-1.602	0.109
Popden	-0.031	0.139	-0.222	0.824
Car	0.068	0.024	2.863	0.004

Sargan(p-Value): 9.62(1.00)
AR(1)(p-Value): -3.80(0.00)
AR(2)(p-Value): 0.48(0.32)

Table 10.15: Model 15

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.698	0.055	12.725	0.000
φ^1	0.329	0.088	3.723	0.000
φ^2	0.340	0.067	5.070	0.000
Inc	-0.004	0.028	-0.130	0.897
Popden	-0.002	0.146	-0.015	0.988
Ind	0.136	0.074	1.828	0.068

Sargan(p-Value): 11.53(1.00)
AR(1)(p-Value): -3.76(0.00)
AR(2)(p-Value): 0.41(0.34)

Table 10.16: Model 16

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.681	0.059	11.621	0.000
φ^1	0.301	0.096	3.146	0.002
φ^2	0.317	0.071	4.443	0.000
Inc	-0.112	0.050	-2.254	0.024
Popden	-0.020	0.144	-0.137	0.891
Ind	0.155	0.075	2.075	0.038
Car	0.077	0.026	2.986	0.003

Sargan(p-Value): 9.18(1.00)
AR(1)(p-Value): -3.70(0.00)

AR(2)(p-Value): 0.48(0.32)

Table 10.17: Model 17

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.730	0.048	15.345	0.000
φ^1	0.189	0.073	2.611	0.009
φ^2	0.247	0.062	3.972	0.000
$\ln T^1$	-0.038	0.017	-2.207	0.027
$\ln T^2$	-0.006	0.016	-0.373	0.709

Sargan(p-Value): 10.04(1.00)
AR(1)(p-Value): -3.80(0.00)
AR(2)(p-Value): 0.39(0.35)

Table 10.18: Model 18

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.728	0.048	15.124	0.000
φ^1	0.244	0.072	3.392	0.001
φ^2	0.306	0.066	4.622	0.000
Car	0.032	0.011	2.857	0.004
$\ln T^1$	-0.050	0.018	-2.756	0.006
$\ln T^2$	-0.014	0.017	-0.805	0.421

Sargan(p-Value): 10.16(1.00)
AR(1)(p-Value): -3.75(0.00)
AR(2)(p-Value): 0.42(0.34)

Table 10.19: Model 19

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.694	0.053	13.206	0.000
φ^1	0.240	0.075	3.189	0.001
φ^2	0.336	0.074	4.516	0.000
Ind	0.181	0.048	3.746	0.000
$\ln T^1$	-0.059	0.021	-2.773	0.006
$\ln T^2$	-0.017	0.017	-1.012	0.311

Sargan(p-Value): 11.82(1.00)
AR(1)(p-Value): -3.68(0.00)
AR(2)(p-Value): 0.39(0.35)

Table 10.20: Model 20

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	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.698	0.052	13.332	0.000
φ^1	0.246	0.073	3.383	0.001
φ^2	0.338	0.074	4.583	0.000
Ind	0.158	0.056	2.824	0.005
Car	0.007	0.016	0.469	0.639
lnT^1	-0.060	0.021	-2.832	0.005
lnT^2	-0.018	0.017	-1.027	0.304

Sargan(p-Value): 11.58(1.00)

AR(1)(p-Value): -3.69(0.00)

AR(2)(p-Value): 0.40(0.34)

Table 10.21: Model 21

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.721	0.050	14.362	0.000
φ^1	0.230	0.074	3.115	0.002
φ^2	0.264	0.069	3.850	0.000
Popden	0.168	0.182	0.925	0.355
lnT^1	-0.048	0.023	-2.060	0.039
lnT^2	-0.017	0.018	-0.970	0.332

Sargan(p-Value): 8.56(1.00)

AR(1)(p-Value): -3.81(0.00)

AR(2)(p-Value): 0.40(0.34)

Table 10.22: Model 22

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.724	0.050	14.441	0.000
φ^1	0.260	0.074	3.504	0.000
φ^2	0.311	0.069	4.476	0.000
Popden	0.076	0.165	0.460	0.645
Car	0.030	0.011	2.730	0.006
lnT^1	-0.054	0.022	-2.449	0.014
lnT^2	-0.018	0.017	-1.089	0.276

Sargan(p-Value): 9.23(1.00)

AR(1)(p-Value): -3.79(0.00)

AR(2)(p-Value): 0.43(0.34)

Table 10.23: Model 23

	Estimate	Std. Error	z-value	$\Pr(>|z|)$
ρ	0.689	0.054	12.666	0.000
φ^1	0.268	0.079	3.394	0.001
φ^2	0.346	0.079	4.379	0.000
Popden	0.124	0.188	0.663	0.508
Ind	0.177	0.048	3.669	0.000
$\ln T^1$	-0.066	0.028	-2.389	0.017
$\ln T^2$	-0.025	0.019	-1.355	0.175

Sargan(p-Value): 10.45(1.00)
AR(1)(p-Value): -3.70(0.00)
AR(2)(p-Value): 0.40(0.35)

Table 10.24: Model 24

	Estimate	Std. Error	z-value	$\Pr(>|z|)$
ρ	0.691	0.055	12.592	0.000
φ^1	0.270	0.078	3.450	0.001
φ^2	0.347	0.078	4.423	0.000
Popden	0.115	0.183	0.630	0.529
Ind	0.166	0.060	2.774	0.006
Car	0.004	0.016	0.225	0.822
$\ln T^1$	-0.066	0.027	-2.473	0.013
$\ln T^2$	-0.025	0.018	-1.398	0.162

Sargan(p-Value): 10.27(1.00)
AR(1)(p-Value): -3.73(0.00)
AR(2)(p-Value): 0.40(0.34)

Table 10.25: Model 25

	Estimate	Std. Error	z-value	$\Pr(>|z|)$
ρ	0.740	0.045	16.422	0.000
φ^1	0.237	0.070	3.388	0.001
φ^2	0.298	0.066	4.513	0.000
Inc	0.037	0.016	2.264	0.024
$\ln T^1$	-0.049	0.019	-2.596	0.009
$\ln T^2$	-0.013	0.017	-0.789	0.430

Sargan(p-Value): 10.66(1.00)
AR(1)(p-Value): -3.77(0.00)
AR(2)(p-Value): 0.39(0.35)

Table 10.26: Model 26

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.727	0.048	15.206	0.000
φ^1	0.217	0.079	2.747	0.006
φ^2	0.279	0.071	3.951	0.000
Inc	-0.053	0.038	-1.381	0.167
Car	0.066	0.024	2.742	0.006
$\ln T^1$	-0.049	0.018	-2.780	0.005
$\ln T^2$	-0.013	0.017	-0.763	0.446

Sargan(p-Value): 7.94(1.00)
AR(1)(p-Value): -3.76(0.00)
AR(2)(p-Value): 0.46(0.32)

Table 10.27: Model 27

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.704	0.051	13.707	0.000
φ^1	0.224	0.072	3.122	0.002
φ^2	0.317	0.073	4.353	0.000
Inc	-0.003	0.027	-0.096	0.924
Ind	0.166	0.065	2.540	0.011
$\ln T^1$	-0.058	0.021	-2.732	0.006
$\ln T^2$	-0.016	0.017	-0.963	0.336

Sargan(p-Value): 11.10(1.00)
AR(1)(p-Value): -3.70(0.00)
AR(2)(p-Value): 0.39(0.35)

Table 10.28: Model 28

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.685	0.056	12.184	0.000
φ^1	0.198	0.082	2.419	0.016
φ^2	0.296	0.078	3.804	0.000
Inc	-0.113	0.049	-2.290	0.022
Ind	0.187	0.068	2.762	0.006
Car	0.078	0.026	3.018	0.003
$\ln T^1$	-0.059	0.020	-2.930	0.003
$\ln T^2$	-0.017	0.018	-0.945	0.345

Sargan(p-Value): 6.97(1.00)
AR(1)(p-Value): -3.65(0.00)
AR(2)(p-Value): 0.45(0.33)

Table 10.29: Model 29

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.734	0.048	15.372	0.000
φ^1	0.257	0.072	3.554	0.000
φ^2	0.304	0.070	4.353	0.000
Inc	0.034	0.016	2.106	0.035
Popden	0.101	0.171	0.590	0.555
$\ln T^1$	-0.055	0.023	-2.365	0.018
$\ln T^2$	-0.019	0.017	-1.144	0.253

Sargan(p-Value): 8.62(1.00)
AR(1)(p-Value): -3.81(0.00)
AR(2)(p-Value): 0.40(0.35)

Table 10.30: Model 30

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.723	0.050	14.444	0.000
φ^1	0.233	0.079	2.944	0.003
φ^2	0.284	0.074	3.855	0.000
Inc	-0.054	0.038	-1.414	0.157
Popden	0.080	0.162	0.497	0.619
Car	0.066	0.024	2.790	0.005
$\ln T^1$	-0.054	0.021	-2.523	0.012
$\ln T^2$	-0.018	0.016	-1.082	0.279

Sargan(p-Value): 5.47(1.00)
AR(1)(p-Value): -3.79(0.00)
AR(2)(p-Value): 0.46(0.32)

Table 10.31: Model 31

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.694	0.055	12.609	0.000
φ^1	0.251	0.077	3.253	0.001
φ^2	0.326	0.078	4.165	0.000
Inc	-0.010	0.027	-0.357	0.721
Popden	0.145	0.187	0.779	0.436
Ind	0.179	0.071	2.518	0.012
$\ln T^1$	-0.066	0.027	-2.441	0.015
$\ln T^2$	-0.026	0.018	-1.424	0.155

Sargan(p-Value): 6.89(1.00)
AR(1)(p-Value): -3.75(0.00)

AR(2)(p-Value): 0.40(0.35)

Table 10.32: Model 32

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.676	0.059	11.370	0.000
φ^1	0.222	0.085	2.620	0.009
φ^2	0.305	0.083	3.698	0.000
Inc	-0.118	0.051	-2.339	0.019
Popden	0.127	0.177	0.717	0.473
Ind	0.199	0.074	2.699	0.007
Car	0.077	0.026	2.987	0.003
$\ln T^1$	-0.066	0.026	-2.605	0.009
$\ln T^2$	-0.025	0.018	-1.386	0.166

Sargan(p-Value): 5.20(1.00)
AR(1)(p-Value): -3.69(0.00)
AR(2)(p-Value): 0.45(0.33)

Table 10.33: Model 33

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.724	0.044	16.510	0.000
φ^1	0.365	0.062	5.865	0.000
φ^2	0.366	0.071	5.138	0.000
T^1	0.004	0.003	1.647	0.099
T^2	0.004	0.002	1.875	0.061

Sargan(p-Value): 11.35(1.00)
AR(1)(p-Value): -3.77(0.00)
AR(2)(p-Value): 0.44(0.33)

Table 10.34: Model 34

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.724	0.044	16.420	0.000
φ^1	0.369	0.063	5.811	0.000
φ^2	0.370	0.076	4.872	0.000
Car	-0.005	0.028	-0.178	0.859
T^1	0.005	0.005	0.944	0.345
T^2	0.005	0.005	1.003	0.316

Sargan(p-Value): 9.52(1.00)
AR(1)(p-Value): -3.73(0.00)

AR(2)(p-Value): 0.44(0.33)

Table 10.35: Model 35

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.702	0.049	14.204	0.000
φ^1	0.378	0.072	5.288	0.000
φ^2	0.366	0.075	4.898	0.000
Ind	0.085	0.065	1.318	0.188
T^1	0.003	0.003	0.821	0.411
T^2	0.002	0.003	0.566	0.571

Sargan(p-Value): 11.19(1.00)
AR(1)(p-Value): -3.68(0.00)
AR(2)(p-Value): 0.43(0.33)

Table 10.36: Model 36

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.702	0.048	14.495	0.000
φ^1	0.390	0.072	5.422	0.000
φ^2	0.381	0.078	4.853	0.000
Ind	0.097	0.065	1.484	0.138
Car	-0.016	0.029	-0.561	0.575
T^1	0.005	0.006	0.895	0.371
T^2	0.004	0.005	0.728	0.466

Sargan(p-Value): 8.91(1.00)
AR(1)(p-Value): -3.68(0.00)
AR(2)(p-Value): 0.43(0.33)

Table 10.37: Model 37

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.729	0.047	15.519	0.000
φ^1	0.366	0.060	6.102	0.000
φ^2	0.345	0.080	4.308	0.000
Popden	-0.125	0.176	-0.713	0.476
T^1	0.006	0.004	1.836	0.066
T^2	0.005	0.002	2.071	0.038

Sargan(p-Value): 10.84(1.00)
AR(1)(p-Value): -3.83(0.00)
AR(2)(p-Value): 0.44(0.33)

Table 10.38: Model 38

	Estimate	Std. Error	z-value	$Pr(>|z|)$
ρ	0.733	0.048	15.202	0.000
φ^1	0.377	0.058	6.457	0.000
φ^2	0.354	0.081	4.364	0.000
Popden	-0.164	0.176	-0.928	0.353
Car	-0.016	0.028	-0.576	0.564
T^1	0.009	0.006	1.481	0.139
T^2	0.007	0.005	1.438	0.151

Sargan(p-Value): 8.58(1.00)
AR(1)(p-Value): -3.80(0.00)
AR(2)(p-Value): 0.44(0.33)

Table 10.39: Model 39

	Estimate	Std. Error	z-value	$Pr(>|z|)$
ρ	0.708	0.053	13.337	0.000
φ^1	0.378	0.070	5.431	0.000
φ^2	0.349	0.083	4.188	0.000
Popden	-0.102	0.181	-0.561	0.575
Ind	0.082	0.062	1.331	0.183
T^1	0.005	0.004	1.074	0.283
T^2	0.002	0.003	0.691	0.489

Sargan(p-Value): 10.80(1.00)
AR(1)(p-Value): -3.74(0.00)
AR(2)(p-Value): 0.43(0.33)

Table 10.40: Model 40

	Estimate	Std. Error	z-value	$Pr(>|z|)$
ρ	0.711	0.052	13.553	0.000
φ^1	0.399	0.067	5.961	0.000
φ^2	0.365	0.083	4.385	0.000
Popden	-0.164	0.185	-0.884	0.377
Ind	0.099	0.060	1.646	0.100
Car	-0.028	0.029	-0.967	0.334
T^1	0.009	0.007	1.403	0.161
T^2	0.006	0.006	1.114	0.265

Sargan(p-Value): 8.18(1.00)
AR(1)(p-Value): -3.74(0.00)
AR(2)(p-Value): 0.43(0.33)

Table 10.41: Model 41

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.729	0.042	17.539	0.000
φ^1	0.360	0.061	5.948	0.000
φ^2	0.407	0.074	5.471	0.000
Inc	-0.094	0.058	-1.610	0.107
T^1	0.014	0.007	1.922	0.055
T^2	0.015	0.007	2.074	0.038

Sargan(p-Value): 10.38(1.00)
AR(1)(p-Value): -3.77(0.00)
AR(2)(p-Value): 0.52(0.30)

Table 10.42: Model 42

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.722	0.043	16.645	0.000
φ^1	0.330	0.062	5.328	0.000
φ^2	0.391	0.078	5.034	0.000
Inc	-0.152	0.064	-2.376	0.018
Car	0.049	0.026	1.893	0.058
T^1	0.012	0.007	1.716	0.086
T^2	0.014	0.007	1.932	0.053

Sargan(p-Value): 7.67(1.00)
AR(1)(p-Value): -3.75(0.00)
AR(2)(p-Value): 0.56(0.29)

Table 10.43: Model 43

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.692	0.046	15.207	0.000
φ^1	0.383	0.073	5.209	0.000
φ^2	0.433	0.079	5.470	0.000
Inc	-0.145	0.068	-2.152	0.031
Ind	0.154	0.079	1.947	0.052
T^1	0.016	0.007	2.238	0.025
T^2	0.016	0.007	2.162	0.031

Sargan(p-Value): 10.85(1.00)
AR(1)(p-Value): -3.73(0.00)
AR(2)(p-Value): 0.54(0.29)

Table 10.44: Model 44

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.683	0.048	14.225	0.000
φ^1	0.351	0.072	4.864	0.000
φ^2	0.417	0.082	5.075	0.000
Inc	-0.211	0.076	-2.771	0.006
Ind	0.161	0.081	1.986	0.047
Car	0.053	0.028	1.908	0.056
T^1	0.015	0.007	2.025	0.043
T^2	0.015	0.008	2.013	0.044

Sargan(p-Value): 7.17(1.00)
AR(1)(p-Value): -3.69(0.00)
AR(2)(p-Value): 0.58(0.28)

Table 10.45: Model 45

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.746	0.045	16.562	0.000
φ^1	0.362	0.055	6.613	0.000
φ^2	0.374	0.077	4.854	0.000
Inc	-0.142	0.061	-2.343	0.019
Popden	-0.345	0.177	-1.950	0.051
T^1	0.024	0.008	2.886	0.004
T^2	0.021	0.007	2.877	0.004

Sargan(p-Value): 9.79(1.00)
AR(1)(p-Value): -3.83(0.00)
AR(2)(p-Value): 0.54(0.29)

Table 10.46: Model 46

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.738	0.047	15.843	0.000
φ^1	0.336	0.057	5.893	0.000
φ^2	0.363	0.080	4.548	0.000
Inc	-0.188	0.065	-2.893	0.004
Popden	-0.321	0.174	-1.847	0.065
Car	0.042	0.025	1.676	0.094
T^1	0.022	0.008	2.618	0.009
T^2	0.020	0.008	2.661	0.008

Sargan(p-Value): 7.14(1.00)
AR(1)(p-Value): -3.81(0.00)

AR(2)(p-Value): 0.58(0.28)

Table 10.47: Model 47

	Estimate	Std. Error	z-value	$\Pr(>|z|)$
ρ	0.705	0.047	15.098	0.000
φ^1	0.389	0.068	5.710	0.000
φ^2	0.401	0.080	4.988	0.000
Inc	-0.217	0.075	-2.894	0.004
Popden	-0.409	0.194	-2.109	0.035
Ind	0.183	0.075	2.425	0.015
T^1	0.029	0.009	3.245	0.001
T^2	0.024	0.008	2.999	0.003

Sargan(p-Value): 7.89(1.00)
AR(1)(p-Value): -3.77(0.00)
AR(2)(p-Value): 0.59(0.28)

Table 10.48: Model 48

	Estimate	Std. Error	z-value	$\Pr(>|z|)$
ρ	0.697	0.049	14.178	0.000
φ^1	0.363	0.068	5.345	0.000
φ^2	0.389	0.083	4.699	0.000
Inc	-0.267	0.082	-3.254	0.001
Popden	-0.384	0.191	-2.005	0.045
Ind	0.186	0.077	2.433	0.015
Car	0.044	0.027	1.622	0.105
T^1	0.027	0.009	2.970	0.003
T^2	0.023	0.008	2.779	0.005

Sargan(p-Value): 5.94(1.00)
AR(1)(p-Value): -3.74(0.00)
AR(2)(p-Value): 0.62(0.27)

11 $S_{con\text{-}g}$ model using rook contiguity matrix

Table 11.1: Model 1

	Estimate	Std. Error	z-value	$\Pr(>|z|)$
ρ	0.680	0.044	15.441	0.000
φ^1	0.315	0.057	5.555	0.000
φ^2	0.300	0.052	5.739	0.000

Sargan(p-Value): 9.29(1.00)
AR(1)(p-Value): -3.65(0.00)
AR(2)(p-Value): 0.27(0.39)

Table 11.2: Model 2

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.685	0.043	15.899	0.000
φ^1	0.333	0.061	5.474	0.000
φ^2	0.318	0.058	5.442	0.000
Car	0.010	0.012	0.876	0.381

Sargan(p-Value): 8.19(1.00)
AR(1)(p-Value): -3.64(0.00)
AR(2)(p-Value): 0.27(0.39)

Table 11.3: Model 3

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.681	0.044	15.602	0.000
φ^1	0.327	0.059	5.522	0.000
φ^2	0.318	0.056	5.667	0.000
Ind	0.047	0.048	0.983	0.326

Sargan(p-Value): 7.65(1.00)
AR(1)(p-Value): -3.63(0.00)
AR(2)(p-Value): 0.26(0.40)

Table 11.4: Model 4

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.683	0.044	15.629	0.000
φ^1	0.333	0.060	5.576	0.000
φ^2	0.321	0.058	5.570	0.000
Ind	0.021	0.073	0.295	0.768
Car	0.007	0.018	0.387	0.699

Sargan(p-Value): 7.78(1.00)
AR(1)(p-Value): -3.64(0.00)
AR(2)(p-Value): 0.27(0.39)

Table 11.5: Model 5

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.677	0.043	15.663	0.000
φ^1	0.297	0.066	4.525	0.000
φ^2	0.289	0.057	5.052	0.000
Popden	-0.073	0.117	-0.621	0.535

Sargan(p-Value): 9.12(1.00)
AR(1)(p-Value): -3.62(0.00)
AR(2)(p-Value): 0.27(0.39)

Table 11.6: Model 6

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.686	0.043	15.955	0.000
φ^1	0.309	0.065	4.773	0.000
φ^2	0.305	0.058	5.240	0.000
Popden	-0.126	0.135	-0.936	0.349
Car	0.015	0.014	1.090	0.276

Sargan(p-Value): 7.21(1.00)
AR(1)(p-Value): -3.63(0.00)
AR(2)(p-Value): 0.28(0.39)

Table 11.7: Model 7

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.679	0.043	15.766	0.000
φ^1	0.303	0.066	4.559	0.000
φ^2	0.306	0.058	5.262	0.000
Popden	-0.108	0.122	-0.885	0.376
Ind	0.062	0.053	1.174	0.240

Sargan(p-Value): 6.79(1.00)
AR(1)(p-Value): -3.60(0.00)
AR(2)(p-Value): 0.26(0.40)

Table 11.8: Model 8

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.684	0.044	15.690	0.000
φ^1	0.308	0.064	4.802	0.000
φ^2	0.307	0.058	5.337	0.000
Popden	-0.128	0.134	-0.956	0.339
Ind	0.019	0.070	0.271	0.786
Car	0.013	0.020	0.643	0.520

Sargan(p-Value): 6.92(1.00)

AR(1)(p-Value): -3.63(0.00)
AR(2)(p-Value): 0.27(0.39)

Table 11.9: Model 9

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.682	0.043	15.995	0.000
φ^1	0.320	0.064	5.009	0.000
φ^2	0.304	0.061	5.010	0.000
Inc	0.003	0.017	0.198	0.843

Sargan(p-Value): 8.23(1.00)
AR(1)(p-Value): -3.64(0.00)
AR(2)(p-Value): 0.27(0.39)

Table 11.10: Model 10

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.668	0.042	15.822	0.000
φ^1	0.299	0.072	4.138	0.000
φ^2	0.281	0.063	4.443	0.000
Inc	-0.103	0.035	-2.903	0.004
Car	0.079	0.022	3.583	0.000

Sargan(p-Value): 8.86(1.00)
AR(1)(p-Value): -3.62(0.00)
AR(2)(p-Value): 0.36(0.36)

Table 11.11: Model 11

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.682	0.044	15.425	0.000
φ^1	0.320	0.063	5.095	0.000
φ^2	0.305	0.060	5.100	0.000
Inc	0.002	0.030	0.061	0.952
Ind	0.008	0.085	0.095	0.924

Sargan(p-Value): 7.79(1.00)
AR(1)(p-Value): -3.62(0.00)
AR(2)(p-Value): 0.27(0.40)

Table 11.12: Model 12

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.666	0.045	14.775	0.000
φ^1	0.298	0.069	4.293	0.000
φ^2	0.283	0.062	4.541	0.000
Inc	-0.106	0.046	-2.277	0.023
Ind	0.022	0.088	0.247	0.805
Car	0.077	0.022	3.476	0.001

Sargan(p-Value): 8.33(1.00)
AR(1)(p-Value): -3.58(0.00)
AR(2)(p-Value): 0.35(0.36)

Table 11.13: Model 13

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.682	0.043	15.776	0.000
φ^1	0.300	0.066	4.520	0.000
φ^2	0.295	0.060	4.908	0.000
Inc	0.009	0.020	0.451	0.652
Popden	-0.115	0.135	-0.856	0.392

Sargan(p-Value): 7.01(1.00)
AR(1)(p-Value): -3.64(0.00)
AR(2)(p-Value): 0.27(0.40)

Table 11.14: Model 14

	Estimate	Std. Error	z-value	Pr(>|z|)
ρ	0.667	0.042	15.788	0.000
φ^1	0.275	0.071	3.848	0.000
φ^2	0.269	0.061	4.396	0.000
Inc	-0.104	0.036	-2.934	0.003
Popden	-0.128	0.136	-0.941	0.347
Car	0.085	0.021	4.051	0.000

Sargan(p-Value): 7.63(1.00)
AR(1)(p-Value): -3.60(0.00)
AR(2)(p-Value): 0.37(0.36)

Table 11.15: Model 15

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.682	0.045	15.265	0.000
φ^1	0.301	0.065	4.603	0.000
φ^2	0.296	0.059	4.990	0.000
Inc	0.010	0.032	0.302	0.762
Popden	-0.116	0.134	-0.865	0.387
Ind	-0.000	0.083	-0.004	0.997

Sargan(p-Value): 6.74(1.00)
AR(1)(p-Value): -3.63(0.00)
AR(2)(p-Value): 0.26(0.40)

Table 11.16: Model 16

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.666	0.045	14.766	0.000
φ^1	0.274	0.069	3.980	0.000
φ^2	0.271	0.060	4.472	0.000
Inc	-0.105	0.047	-2.258	0.024
Popden	-0.129	0.135	-0.956	0.339
Ind	0.015	0.084	0.176	0.860
Car	0.083	0.022	3.857	0.000

Sargan(p-Value): 7.42(1.00)
AR(1)(p-Value): -3.57(0.00)
AR(2)(p-Value): 0.36(0.36)

Table 11.17: Model 17

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.680	0.043	15.845	0.000
φ^1	0.248	0.060	4.126	0.000
φ^2	0.245	0.066	3.741	0.000
$\ln T^1$	-0.036	0.015	-2.358	0.018
$\ln T^2$	-0.027	0.016	-1.685	0.092

Sargan(p-Value): 8.65(1.00)
AR(1)(p-Value): -3.64(0.00)
AR(2)(p-Value): 0.28(0.39)

Table 11.18: Model 18

	Estimate	Std. Error	z-value	$Pr(>|z|)$
ρ	0.690	0.042	16.409	0.000
φ^1	0.264	0.059	4.488	0.000
φ^2	0.265	0.066	4.020	0.000
Car	0.019	0.013	1.485	0.138
$\ln T^1$	-0.045	0.018	-2.532	0.011
$\ln T^2$	-0.033	0.018	-1.894	0.058

Sargan(p-Value): 7.56(1.00)

AR(1)(p-Value): -3.63(0.00)

AR(2)(p-Value): 0.29(0.39)

Table 11.19: Model 19

	Estimate	Std. Error	z-value	$Pr(>|z|)$
ρ	0.681	0.042	16.073	0.000
φ^1	0.251	0.058	4.304	0.000
φ^2	0.265	0.066	3.985	0.000
Ind	0.091	0.047	1.921	0.055
$\ln T^1$	-0.047	0.018	-2.611	0.009
$\ln T^2$	-0.035	0.017	-2.073	0.038

Sargan(p-Value): 6.73(1.00)

AR(1)(p-Value): -3.61(0.00)

AR(2)(p-Value): 0.27(0.39)

Table 11.20: Model 20

	Estimate	Std. Error	z-value	$Pr(>|z|)$
ρ	0.686	0.042	16.184	0.000
φ^1	0.259	0.056	4.660	0.000
φ^2	0.268	0.066	4.042	0.000
Ind	0.054	0.063	0.855	0.392
Car	0.011	0.018	0.580	0.562
$\ln T^1$	-0.048	0.018	-2.666	0.008
$\ln T^2$	-0.035	0.017	-2.078	0.038

Sargan(p-Value): 6.80(1.00)

AR(1)(p-Value): -3.62(0.00)

AR(2)(p-Value): 0.28(0.39)

Table 11.21: Model 21

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.678	0.043	15.887	0.000
φ^1	0.258	0.058	4.464	0.000
φ^2	0.250	0.067	3.739	0.000
Popden	0.064	0.156	0.407	0.684
$\ln T^1$	-0.041	0.021	-1.942	0.052
$\ln T^2$	-0.032	0.017	-1.836	0.066

Sargan(p-Value): 7.72(1.00)

AR(1)(p-Value): -3.62(0.00)

AR(2)(p-Value): 0.28(0.39)

Table 11.22: Model 22

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.688	0.042	16.383	0.000
φ^1	0.266	0.056	4.720	0.000
φ^2	0.267	0.066	4.028	0.000
Popden	0.013	0.151	0.085	0.932
Car	0.018	0.013	1.402	0.161
$\ln T^1$	-0.046	0.021	-2.191	0.028
$\ln T^2$	-0.034	0.017	-1.997	0.046

Sargan(p-Value): 6.34(1.00)

AR(1)(p-Value): -3.63(0.00)

AR(2)(p-Value): 0.29(0.39)

Table 11.23: Model 23

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.680	0.042	16.133	0.000
φ^1	0.258	0.057	4.531	0.000
φ^2	0.268	0.068	3.967	0.000
Popden	0.040	0.153	0.261	0.794
Ind	0.089	0.047	1.896	0.058
$\ln T^1$	-0.050	0.023	-2.165	0.030
$\ln T^2$	-0.038	0.018	-2.151	0.031

Sargan(p-Value): 5.86(1.00)

AR(1)(p-Value): -3.59(0.00)

AR(2)(p-Value): 0.27(0.39)

Table 11.24: Model 24

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.684	0.043	16.075	0.000
φ^1	0.263	0.055	4.783	0.000
φ^2	0.270	0.067	4.036	0.000
Popden	0.021	0.151	0.138	0.891
Ind	0.056	0.063	0.888	0.374
Car	0.010	0.019	0.524	0.600
lnT^1	-0.049	0.022	-2.294	0.022
lnT^2	-0.037	0.016	-2.266	0.023

Sargan(p-Value): 5.92(1.00)
AR(1)(p-Value): -3.62(0.00)
AR(2)(p-Value): 0.28(0.39)

Table 11.25: Model 25

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.690	0.042	16.590	0.000
φ^1	0.255	0.060	4.285	0.000
φ^2	0.257	0.067	3.861	0.000
Inc	0.015	0.018	0.823	0.411
lnT^1	-0.043	0.018	-2.390	0.017
lnT^2	-0.032	0.018	-1.785	0.074

Sargan(p-Value): 7.40(1.00)
AR(1)(p-Value): -3.64(0.00)
AR(2)(p-Value): 0.28(0.39)

Table 11.26: Model 26

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.676	0.042	16.142	0.000
φ^1	0.231	0.069	3.358	0.001
φ^2	0.233	0.068	3.407	0.001
Inc	-0.095	0.034	-2.781	0.005
Car	0.082	0.021	3.906	0.000
lnT^1	-0.045	0.017	-2.645	0.008
lnT^2	-0.032	0.018	-1.766	0.077

Sargan(p-Value): 8.11(1.00)
AR(1)(p-Value): -3.61(0.00)
AR(2)(p-Value): 0.37(0.36)

Table 11.27: Model 27

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	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.685	0.043	15.961	0.000
φ^1	0.248	0.056	4.412	0.000
φ^2	0.257	0.067	3.824	0.000
Inc	0.005	0.030	0.161	0.872
Ind	0.046	0.077	0.598	0.550
$\ln T^1$	-0.045	0.018	-2.587	0.010
$\ln T^2$	-0.033	0.017	-1.935	0.053

Sargan(p-Value): 6.92(1.00)
AR(1)(p-Value): -3.61(0.00)
AR(2)(p-Value): 0.27(0.39)

Table 11.28: Model 28

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.669	0.045	14.976	0.000
φ^1	0.220	0.063	3.485	0.000
φ^2	0.233	0.069	3.386	0.001
Inc	-0.110	0.045	-2.471	0.013
Ind	0.063	0.080	0.787	0.431
Car	0.083	0.021	3.975	0.000
$\ln T^1$	-0.048	0.017	-2.867	0.004
$\ln T^2$	-0.034	0.017	-1.941	0.052

Sargan(p-Value): 7.13(1.00)
AR(1)(p-Value): -3.56(0.00)
AR(2)(p-Value): 0.36(0.36)

Table 11.29: Model 29

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.686	0.042	16.376	0.000
φ^1	0.259	0.057	4.503	0.000
φ^2	0.260	0.067	3.874	0.000
Inc	0.014	0.019	0.752	0.452
Popden	0.017	0.152	0.115	0.909
$\ln T^1$	-0.046	0.022	-2.100	0.036
$\ln T^2$	-0.033	0.017	-1.876	0.061

Sargan(p-Value): 6.06(1.00)
AR(1)(p-Value): -3.63(0.00)
AR(2)(p-Value): 0.27(0.39)

Table 11.30: Model 30

	Estimate	Std. Error	z-value	$\Pr(>|z|)$
ρ	0.672	0.042	16.020	0.000
φ^1	0.232	0.064	3.642	0.000
φ^2	0.236	0.069	3.421	0.001
Inc	-0.097	0.034	-2.832	0.005
$Popden$	0.004	0.148	0.030	0.976
Car	0.083	0.020	4.118	0.000
$\ln T^1$	-0.047	0.020	-2.296	0.022
$\ln T^2$	-0.032	0.017	-1.870	0.061

Sargan(p-Value): 6.17(1.00)
AR(1)(p-Value): -3.60(0.00)
AR(2)(p-Value): 0.37(0.36)

Table 11.31: Model 31

	Estimate	Std. Error	z-value	$\Pr(>|z|)$
ρ	0.681	0.044	15.598	0.000
φ^1	0.253	0.055	4.559	0.000
φ^2	0.260	0.068	3.832	0.000
Inc	0.004	0.031	0.125	0.901
$Popden$	0.025	0.152	0.166	0.868
Ind	0.046	0.077	0.599	0.549
$\ln T^1$	-0.048	0.021	-2.255	0.024
$\ln T^2$	-0.035	0.016	-2.115	0.034

Sargan(p-Value): 5.75(1.00)
AR(1)(p-Value): -3.62(0.00)
AR(2)(p-Value): 0.27(0.39)

Table 11.32: Model 32

	Estimate	Std. Error	z-value	$\Pr(>|z|)$
ρ	0.665	0.045	14.720	0.000
φ^1	0.223	0.060	3.732	0.000
φ^2	0.235	0.069	3.395	0.001
Inc	-0.113	0.046	-2.455	0.014
$Popden$	0.014	0.148	0.097	0.923
Ind	0.062	0.081	0.772	0.440
Car	0.084	0.020	4.146	0.000
$\ln T^1$	-0.050	0.020	-2.454	0.014
$\ln T^2$	-0.035	0.016	-2.147	0.032

Sargan(p-Value): 5.93(1.00)
AR(1)(p-Value): -3.57(0.00)

AR(2)(p-Value): 0.36(0.36)

Table 11.33: Model 33

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.693	0.047	14.836	0.000
φ^1	0.350	0.065	5.411	0.000
φ^2	0.293	0.068	4.305	0.000
T^1	0.002	0.003	0.791	0.429
T^2	0.000	0.002	0.111	0.912

Sargan(p-Value): 8.15(1.00)
AR(1)(p-Value): -3.62(0.00)
AR(2)(p-Value): 0.27(0.39)

Table 11.34: Model 34

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.687	0.048	14.321	0.000
φ^1	0.339	0.064	5.295	0.000
φ^2	0.272	0.069	3.916	0.000
Car	0.026	0.025	1.067	0.286
T^1	-0.001	0.005	-0.261	0.794
T^2	-0.004	0.004	-0.926	0.354

Sargan(p-Value): 7.37(1.00)
AR(1)(p-Value): -3.57(0.00)
AR(2)(p-Value): 0.28(0.39)

Table 11.35: Model 35

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.687	0.047	14.668	0.000
φ^1	0.351	0.067	5.259	0.000
φ^2	0.290	0.071	4.105	0.000
Ind	0.031	0.065	0.482	0.630
T^1	0.002	0.003	0.506	0.613
T^2	-0.001	0.003	-0.222	0.824

Sargan(p-Value): 6.87(1.00)
AR(1)(p-Value): -3.60(0.00)
AR(2)(p-Value): 0.26(0.40)

Table 11.36: Model 36

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.685	0.048	14.357	0.000
φ^1	0.340	0.065	5.222	0.000
φ^2	0.272	0.070	3.905	0.000
Ind	0.012	0.074	0.163	0.871
Car	0.025	0.029	0.872	0.383
T^1	-0.001	0.005	-0.275	0.783
T^2	-0.004	0.004	-0.967	0.333

Sargan(p-Value): 7.07(1.00)

AR(1)(p-Value): -3.57(0.00)

AR(2)(p-Value): 0.27(0.39)

Table 11.37: Model 37

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.698	0.047	14.763	0.000
φ^1	0.356	0.062	5.758	0.000
φ^2	0.273	0.066	4.114	0.000
Popden	-0.165	0.157	-1.052	0.293
T^1	0.005	0.003	1.515	0.130
T^2	0.001	0.002	0.422	0.673

Sargan(p-Value): 7.77(1.00)

AR(1)(p-Value): -3.66(0.00)

AR(2)(p-Value): 0.27(0.39)

Table 11.38: Model 38

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.693	0.048	14.328	0.000
φ^1	0.347	0.061	5.652	0.000
φ^2	0.264	0.069	3.834	0.000
Popden	-0.125	0.157	-0.798	0.425
Car	0.017	0.021	0.817	0.414
T^1	0.002	0.005	0.392	0.695
T^2	-0.002	0.004	-0.491	0.623

Sargan(p-Value): 7.19(1.00)

AR(1)(p-Value): -3.62(0.00)

AR(2)(p-Value): 0.28(0.39)

Table 11.39: Model 39

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.693	0.048	14.478	0.000
φ^1	0.356	0.064	5.595	0.000
φ^2	0.272	0.068	3.984	0.000
Popden	-0.160	0.162	-0.985	0.325
Ind	0.026	0.065	0.401	0.688
T^1	0.005	0.004	1.072	0.284
T^2	0.000	0.003	0.040	0.968

Sargan(p-Value): 6.79(1.00)

AR(1)(p-Value): -3.63(0.00)

AR(2)(p-Value): 0.27(0.39)

Table 11.40: Model 40

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.691	0.049	14.220	0.000
φ^1	0.349	0.062	5.604	0.000
φ^2	0.265	0.069	3.824	0.000
Popden	-0.128	0.155	-0.827	0.408
Ind	0.016	0.070	0.232	0.816
Car	0.015	0.023	0.639	0.523
T^1	0.002	0.005	0.403	0.687
T^2	-0.002	0.004	-0.491	0.623

Sargan(p-Value): 6.64(1.00)

AR(1)(p-Value): -3.61(0.00)

AR(2)(p-Value): 0.27(0.39)

Table 11.41: Model 41

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.699	0.046	15.246	0.000
φ^1	0.344	0.064	5.398	0.000
φ^2	0.301	0.067	4.476	0.000
Inc	-0.029	0.055	-0.525	0.599
T^1	0.005	0.007	0.768	0.442
T^2	0.003	0.006	0.558	0.577

Sargan(p-Value): 6.72(1.00)

AR(1)(p-Value): -3.61(0.00)

AR(2)(p-Value): 0.30(0.38)

Table 11.42: Model 42

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.688	0.047	14.773	0.000
φ^1	0.317	0.063	5.023	0.000
φ^2	0.281	0.069	4.075	0.000
Inc	-0.106	0.065	-1.636	0.102
Car	0.063	0.022	2.876	0.004
T^1	0.004	0.007	0.584	0.559
T^2	0.003	0.006	0.425	0.671

Sargan(p-Value): 6.80(1.00)

AR(1)(p-Value): -3.58(0.00)

AR(2)(p-Value): 0.37(0.36)

Table 11.43: Model 43

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.696	0.046	15.105	0.000
φ^1	0.345	0.064	5.350	0.000
φ^2	0.300	0.067	4.452	0.000
Inc	-0.030	0.073	-0.417	0.677
Ind	0.012	0.094	0.127	0.899
T^1	0.005	0.007	0.709	0.479
T^2	0.003	0.006	0.511	0.609

Sargan(p-Value): 6.61(1.00)

AR(1)(p-Value): -3.62(0.00)

AR(2)(p-Value): 0.30(0.38)

Table 11.44: Model 44

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.686	0.047	14.500	0.000
φ^1	0.319	0.064	5.013	0.000
φ^2	0.281	0.069	4.070	0.000
Inc	-0.105	0.082	-1.279	0.201
Ind	0.014	0.095	0.150	0.881
Car	0.061	0.022	2.791	0.005
T^1	0.004	0.007	0.537	0.591
T^2	0.002	0.006	0.380	0.704

Sargan(p-Value): 6.55(1.00)

AR(1)(p-Value): -3.57(0.00)

AR(2)(p-Value): 0.36(0.36)

Table 11.45: Model 45

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.709	0.046	15.324	0.000
φ^1	0.354	0.059	5.957	0.000
φ^2	0.284	0.064	4.448	0.000
Inc	-0.077	0.053	-1.458	0.145
Popden	-0.300	0.153	-1.964	0.049
T^1	0.015	0.007	2.045	0.041
T^2	0.010	0.006	1.642	0.101

Sargan(p-Value): 7.12(1.00)

AR(1)(p-Value): -3.65(0.00)

AR(2)(p-Value): 0.33(0.37)

Table 11.46: Model 46

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.698	0.047	14.878	0.000
φ^1	0.327	0.060	5.422	0.000
φ^2	0.267	0.066	4.014	0.000
Inc	-0.145	0.061	-2.400	0.016
Popden	-0.272	0.149	-1.822	0.069
Car	0.059	0.022	2.733	0.006
T^1	0.013	0.007	1.785	0.074
T^2	0.009	0.006	1.427	0.153

Sargan(p-Value): 6.97(1.00)

AR(1)(p-Value): -3.62(0.00)

AR(2)(p-Value): 0.39(0.35)

Table 11.47: Model 47

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.704	0.046	15.189	0.000
φ^1	0.355	0.062	5.759	0.000
φ^2	0.284	0.064	4.407	0.000
Inc	-0.090	0.070	-1.281	0.200
Popden	-0.311	0.149	-2.093	0.036
Ind	0.039	0.089	0.440	0.660
T^1	0.016	0.008	2.015	0.044
T^2	0.010	0.006	1.602	0.109

Sargan(p-Value): 6.61(1.00)

AR(1)(p-Value): -3.64(0.00)

AR(2)(p-Value): 0.33(0.37)

Table 11.48: Model 48

	Estimate	Std. Error	z-value	Pr($>$|z|)
ρ	0.693	0.047	14.596	0.000
φ^1	0.329	0.062	5.346	0.000
φ^2	0.267	0.067	4.000	0.000
Inc	-0.155	0.080	-1.940	0.052
Popden	-0.283	0.145	-1.960	0.050
Ind	0.039	0.090	0.436	0.663
Car	0.058	0.021	2.693	0.007
T^1	0.014	0.008	1.766	0.077
T^2	0.009	0.006	1.394	0.163

Sargan(p-Value): 6.56(1.00)
AR(1)(p-Value): -3.60(0.00)
AR(2)(p-Value): 0.39(0.35)