Economic Geography of WIC

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Introduction to The Special Supplemental Nutrition Program for Women, Infants, and Children (WIC)

- ▶ Provides federal grants to states for:
  1. Supplemental foods
  2. Health care referrals
  3. Nutritional education

- ▶ State by state programs differ but requirement mainstays are categorical, residential, income, and nutritional risk eligibilities.

- ▶ Food packages are tailored to category of participant.

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WIC Eligibility

- Categorical
  - Women who are pregnant, postpartum (up to 6 months), or breastfeeding (up to one year)
  - Infants up to one year old
  - children up to the fifth birthday
- Residential
  - Must live in the state where benefits are received
- Income
  - Set by the state, but no more than 185 percent of the federal poverty guideline.
  - Many states allow (adjudicative) participation if individuals receive SNAP, Medicaid, TANF, or other state sponsored programs.
- Nutritional Need

Barriers to Participation

▶ Clinic access (Christie et al 2006, Rossin-Slater 2013).

▶ WIC purchase experience (Bertmann et.al, 2014,Najjer, 2013, Phillips et.al 2015).

▶ Contents of the WIC food package (Gleason and Pooler 2015, Gleason et.al 2014).

▶ Perception that benefits are not worth the effort (Tiehen and Jacknowitz, 2010).

▶ Lack of program awareness (Tiehen and Jacknowitz, 2008)

Effect on Diet Quality

- ▶ WIC improves healthfulness of food purchases and food consumption (Arcia, Crouch and Kulka 1990; Yen 2010; Ishdorj and Capps 2013).

- ▶ WIC targets those at high nutritional risk (Bitler, Gundersen and Marquis, 2005).

- ▶ WIC improves variety and access to healthy foods (Andreyeva et.al, 2011, Andreyeva 2011).

Effect on Other Health Outcomes

- ▶ Improves birth outcomes (Devaney 2010; Currie and Rossin-Slater 2015; Hoynes and Schanzenbach 2015)

- ▶ Improve child health
  - ▶ Direct effects on participants(Carlson and Senauer 2003, Chandran 2003, USDA, 2008, Ponza 2004)
  - ▶ Indirect effects on other household members (Robinson 2013, Ver Ploeg 2009)

- ▶ Reduce food insecurity (Herman et al. 2004; Bitler, Gundersen and Marquis 2005)

Objectives

- ▶ Provide a clearer understanding of geographic barriers that impact WIC program participation.

- ▶ Assess the extent to which the WIC program improves food choices in the communities where it reaches.

Assembling Clinic Data

- ▶ WIC is a decentralized federal program (there are 90 local agencies).
  - ▶ All 50 states
  - ▶ US territories
  - ▶ Native American tribal agencies

- ▶ We focused on the FoodAPS geographies.
  - ▶ FoodAPS counties
  - ▶ Counties adjacent to FoodAPS counties but in the same state

- ▶ We used 2012-2013 locations if available otherwise 2015-2016 locations.

Assembling Income Eligible Subsample

- ► Outcomes
  - ► WIC participation
  - ► Household aggregate HEI

- ► Covariates (aggregated at household level)
  - ► Clinic access
  - ► Food access
  - ► Number and type of eligible WIC recipients
  - ► Whether WIC was used to make a food purchase
  - ► Race, ethnicity, SES controls
  - ► Nutrition knowledge indicators

Clinic and Food Access Measures

- ▶ Clinic access
  - ▶ Distance to nearest (miles to block-group centroid).
  - ▶ Clinic counts within a 1-mile (10-mile) radius if urban (rural).
  - ▶ Clinic availability within the same radii.

  - ▶ *Distance to nearest* $\times \dfrac{Driving\ distance\ to\ primary\ store}{Radial\ distance\ to\ primary\ store}$

  - ▶ *Distance to nearest* $\times \dfrac{Driving\ time\ to\ primary\ store}{Radial\ distance\ to\ primary\ store}$

- ▶ Food access measured similarly to clinic access (e.g., distance, radial counts, travel time).

Modeling WIC Participation

- ▶ We examined two samples.
    - ▶ Sample 1: those with non-missing values of the WIC participation indicator (n=1,006)
    - ▶ Sample 2: a subset below 185% of poverty (n=706)

- ▶ We used a logistic regression with state fixed effects.
    - ▶ No evidence that clinic access affects participation
    - ▶ Likelihood of participation is positively associated with presence of WIC eligible infants and mothers.
    - ▶ Likelihood of participation is negatively associated with income and education.

- ▶ Moran's I shows no spatial autocorrelation.

Modeling WIC Participation (Continued)

- ▶ We obtained similar results for an urban-only subsample.

- ▶ We examined subsample comprised only of households with WIC eligible children.
  - ▶ The stimate for clinic counts was marginally significant and positive.
  - ▶ Other measures of clinic access were not significant.

Modeling HEI

- We examined two samples.
  - Sample 1: those currently in SNAP (n=1,423).
  - Sample 2: those below 185% of poverty (n=2,509).

- Preliminary findings
  - No evidence that food access affects HEI in these samples.
  - Higher educational attainment, use of nutrition facts, and participation in nutrition eduction were associated with higher household HEI.
  - Hispanic and Asian households had higher HEI.
  - HEI was significantly higher for households that used WIC for food purchases.

Spatial Models for HEI

- ▶ Moran's I showed significant spatial autocorrelation.

- ▶ Spatial lag and spatial error models were estimated to adjust for spatial dependency.

- ▶ The spatial lag was significant but close to zero.

- ▶ Covariate estimates from these models were consistent with non-spatial models.

Does the Density of WIC Clinics Spillover to HEI of non-WIC Households?

- ▶ We exclude WIC households from the previous two samples.
    - ▶ Sample 1: those currently in SNAP and not in WIC (n=1,071).
    - ▶ Sample 2: those below 185% of poverty and not in WIC (n=1,997).

- ▶ We add the following measurements of clinic proximity:
    - ▶ Number of clinics within 1 mile of the household's primary store.
    - ▶ Whether there exists a clinic within 1 mile of the household's primary store.
    - ▶ Distance from the primary store to the nearest clinic.

Preliminary findings on Spillover of WIC Clinics to HEI of non-WIC Households

- ▶ Clinic proximity to primary food store was not significant.

- ▶ Estimates for other covariates were similar to those estimated from the earlier samples including WIC households.

Discussion

- ► Limitations
  - ► Geographic distance to clinics may be overly simplistic.
  - ► Geographic distances to clinics may be imprecise.

- ► Next Steps
  - ► Identify WIC authorized food stores.
  - ► Improve models of spatial dependency in healthiness of purchases.
  - ► Model HEI components as outcomes in addition to total HEI.
  - ► Focus on the HEI of eligible participants as opposed to eligible households.

Questions?

Thank you!

Table 1. Descriptive Statistics for Samples Used in Binomial Response Models of WIC Participation

Measure	Sample 1 (a)			Sample 2 (b)		
	Mean	Std. Dev	N	Mean	Std. Dev	N
WIC participation (binary)	0.457	0.498	1006	0.571	0.495	706
Distance to nearest clinic (miles)	4.005	4.638	1006	3.870	4.802	706
Clinic access (binary)	0.339	0.474	1006	0.377	0.485	706
Clinic counts	0.545	1.048	1006	0.612	1.108	706
Imputed time to WIC clinic	17.032	28.034	947	17.022	30.895	670
Imputed distance to WIC clinic	5.873	6.975	947	5.683	7.309	670
Food acces (binary)	0.824	0.381	1006	0.830	0.376	706
Number of WIC-aged infants	0.195	0.411	1006	0.212	0.449	706
Number of WIC-aged children	0.815	0.651	1006	0.843	0.688	706
Presence of a WIC-eligible woman (binary)	0.223	0.416	1006	0.211	0.408	706
Education (highest attainment in HH)	20.710	2.303	1006	20.125	2.261	706
Someone in the HH is married (binary)	0.565	0.496	1006	0.456	0.498	706
Average HH income ($K)	4.031	5.092	1006	2.613	4.272	706
Hispanic (proportion)	0.309	0.440	1006	0.347	0.454	706
Black (proportion)	0.176	0.363	1006	0.209	0.389	706
Asian (proportion)	0.025	0.147	1006	0.012	0.102	706
American Indian or Alaska Native (proportion)	0.013	0.083	1006	0.015	0.091	706
Hawian or Pacific Islander (proportion)	0.004	0.048	1006	0.004	0.053	706
Other race (proportion)	0.134	0.320	1006	0.147	0.336	706
Rural HH (binary)	0.232	0.422	1006	0.228	0.420	706

(a) Households with non-missing values of the WIC participation indicator

(b) Households with WIC eligible individuals, income below 185 percent of poverty, and non-missing values of the WIC participation indicator

Table 2. Parameter Estimates for Binomial Response Models of WIC Participation

	Sample 1(a)					Sample 2(b)				
Food access	-0.340*	-0.355*	-0.374*	-0.318	-0.315	-0.286	-0.297	-0.322	-0.309	-0.298
	(0.194)	(0.198)	(0.197)	(0.200)	(0.200)	($0.229)	($0.234)	($0.233)	($0.238)	($0.237)
Distance to nearest clinic (miles)	0.016					0.005				
	(0.019)					(0.022)				
Clinic access (binary)		0.082					0.053			
		(0.173)					(0.198)			
Clinic counts			0.086					0.079		
			(0.076)					(0.085)		
Imputed time to WIC clinic				0.002					0.003	
				(0.003)					(0.003)	
Imputed distance to WIC clinic					0.012					0.016
					(0.013)					(0.015)
Number of WIC-aged infants	0.913***	0.903***	0.900***	0.950***	0.952***	0.958***	0.953***	0.946***	0.979***	0.977***
	(0.193)	(0.193)	(0.193)	(0.199)	(0.199)	(0.233)	(0.234)	(0.233)	(0.240)	(0.240)
Number of WIC-aged children	-0.063	-0.064	-0.074	-0.071	-0.072	-0.043	-0.043	-0.053	-0.051	-0.058
	(0.117)	(0.117)	(0.117)	(0.122)	(0.122)	(0.130)	(0.130)	(0.131)	(0.137)	(0.138)
Presence of a WIC-eligible woman (binary)	0.652***	0.654***	0.649***	0.652***	0.653***	0.742***	0.742***	0.740***	0.705***	0.709***
	-0.185	-0.185	-0.185	-0.193	-0.193	-0.226	-0.226	-0.226	-0.235	-0.235
Hispanic (proportion)	0.702***	0.687***	0.699***	0.541**	0.557**	0.454	0.445	0.460*	0.323	0.347
	(0.237)	(0.236)	(0.237)	(0.242)	(0.243)	(0.279)	(0.279)	(0.279)	(0.286)	(0.286)
Education (highest attainment in HH)	-0.137***	-0.136***	-0.138***	-0.139***	-0.139***	-0.074*	-0.073*	-0.074*	-0.072*	-0.072*
	(0.037)	(0.037)	(0.037)	(0.038)	(0.038)	(0.040)	(0.040)	(0.040)	(0.041)	(0.041)
Someone in the HH is married (binary)	0.133	0.132	0.128	0.155	0.156	0.222	0.22	0.216	0.251	0.255
	(0.163)	(0.163)	(0.163)	(0.168)	(0.168)	(0.181)	(0.181)	(0.181)	(0.186)	(0.187)
Average HH income ($K)	-0.198***	-0.197***	-0.196***	-0.201***	-0.201***	-0.033	-0.033	-0.034	-0.037	-0.037
	(0.034)	(0.034)	(0.034)	(0.035)	(0.035)	(0.024)	(0.025)	(0.025)	(0.027)	(0.027)
Black (proportion)	0.359	0.342	0.361	0.266	0.289	0.096	0.088	0.107	-0.022	0.018
	(0.230)	(0.228)	(0.230)	(0.235)	(0.236)	(0.261)	(0.259)	(0.260)	(0.270)	(0.271)
Asian (proportion)	-0.315	-0.326	-0.301	-0.316	-0.294	0.052	0.062	0.102	-0.016	0.017
	(0.569)	(0.567)	(0.568)	(0.582)	(0.582)	(0.820)	(0.820)	(0.820)	(0.837)	(0.834)
American Indian or Alaska Native (proportion)	-0.898	-0.845	-0.855	-1.229	-1.215	-1.246	-1.232	-1.243	-1.727	-1.713
	(0.910)	(0.907)	(0.911)	(0.976)	(0.976)	(1.019)	(1.019)	(1.024)	(1.111)	(1.113)
Hawian or Pacific Islander (proportion)	0.694	0.709	0.721	0.679	0.689	0.783	0.788	0.842	0.671	0.691
	(1.485)	(1.488)	(1.491)	(1.483)	(1.481)	(1.597)	(1.599)	(1.610)	(1.593)	(1.592)
Other race (proportion)	-0.098	-0.103	-0.098	-0.018	-0.01	-0.017	-0.013	-0.004	0.062	0.069
	(0.256)	(0.256)	(0.256)	(0.265)	(0.265)	(0.292)	(0.293)	(0.293)	(0.300)	(0.300)
Constant	2.429***	2.575***	2.635***	2.402***	2.257**	0.993	1.023	1.082	0.625	0.46
	(0.904)	(0.883)	(0.883)	(0.919)	(0.935)	(1.011)	(0.991)	(0.989)	(1.028)	(1.048)
State fixed effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,006	1,006	1,006	947	947	706	706	706	670	670
Log Likelihood	-582.323	-582.578	-582.055	-548.273	-547.966	-436.731	-436.724	-436.324	-411.247	-411.100
Akaike Inf. Crit.	1246.646	1247.156	1246.109	1178.545	1177.932	955.462	955.448	954.649	904.494	904.200

(a) Households with non-missing values of the WIC participation indicator
(b) Households with WIC eligible individuals, income below 185 percent of poverty, and non-missing values of the WIC participation indicator
Note:*p<0.1; **p<0.05; ***p<0.01.

Table 3. Descriptive Statistics for Samples Used in HEI Models

Measure	SNAP Households			Households Below 185% of Poverty		
	Mean	Std. Dev	N	Mean	Std. Dev	N
Food access	0.835	0.371	1423	0.830	0.376	2509
WIC participation (binary)	0.192	0.394	1423	0.148	0.355	2509
Number of WIC eligible persons	0.394	0.718	1423	0.332	0.688	2509
Hispanic (proportion)	0.256	0.419	1423	0.243	0.414	2509
Education (highest attainment in HH)	19.956	2.366	1423	20.148	2.444	2509
Average HH income ($K)	2.141	3.344	1423	2.020	2.606	2509
Black (proportion)	0.216	0.396	1423	0.182	0.373	2509
Asian (proportion)	0.012	0.103	1423	0.033	0.176	2509
American Indian or Alaska Native (proportion)	0.019	0.105	1423	0.018	0.102	2509
Hawian or Pacific Islander (proportion)	0.004	0.059	1423	0.003	0.049	2509
Other race (proportion)	0.103	0.286	1423	0.098	0.281	2509
Nutrition education	0.054	0.226	1423	0.053	0.223	2509
WIC purchase event	0.071	0.257	1423	0.057	0.233	2509
Total HEI score	48.029	12.475	1423	49.197	12.935	2509

Table 4. Parameter Estimates, Dependent Varaiable is the Household HEI

Measure	SNAP Households		Households Below 185% of Poverty	
Food access	0.224	0.57	-0.216	-0.354
	(0.853)	(0.844)	(0.681)	(0.659)
WIC participation (binary)	-3.772***	-3.824***	-4.263***	-4.196***
	(1.443)	(1.462)	(1.161)	(1.172)
Number of WIC eligible persons	-1.318**	-1.127*	-1.103**	-0.974*
	(0.626)	(0.638)	(0.491)	(0.501)
Hispanic (proportion)	3.421***	1.888	3.970***	2.503***
	(0.976)	(1.298)	(0.775)	(0.970)
Education (highest attainment in HH)	0.319**	0.253*	0.357***	0.329***
	(0.157)	(0.153)	(0.117)	(0.117)
Average HH income ($K)	0.119	0.106	0.034	0.012
	(0.117)	(0.114)	(0.090)	(0.089)
Black (proportion)	0.455	0.854	0.397	0.339
	(0.822)	(0.898)	(0.750)	(0.798)
Asian (proportion)	7.912**	5.379	6.604***	6.031***
	(3.625)	(3.755)	(1.922)	(1.799)
American Indian or Alaska Native (proportion)	-2.046	-2.438	-2.764	-2.973
	(2.420)	(2.597)	(2.087)	(2.118)
Hawian or Pacific Islander (proportion)	7.512**	2.823	8.262**	4.842
	(3.378)	(3.074)	(3.228)	(3.009)
Other race (proportion)	1.177	0.991	-0.083	-0.144
	(1.359)	(1.340)	(0.928)	(0.933)
Nutrition Facts: Most of the Time	-0.037	0.262	-0.503	-0.297
	(1.329)	(1.399)	(0.975)	(1.016)
Nutrition Facts: Sometimes	-3.236***	-2.902**	-3.338***	-3.128***
	(1.181)	(1.233)	(0.861)	(0.894)
Nutrition Facts: Rarely	-4.890***	-4.231***	-5.728***	-5.375***
	(1.313)	(1.354)	(0.980)	(1.018)
Nutrition Facts: Never	-4.829***	-4.135***	-5.701***	-5.197***
	(1.204)	(1.241)	(0.904)	(0.926)
Nutrition Facts: Never Seen	-2.311	-1.584	-6.449***	-6.280***
	(2.471)	(2.437)	(1.851)	(2.013)
Nutrition education	3.278**	3.508**	2.630**	2.672**
	(1.378)	(1.418)	(1.188)	(1.188)
WIC Purchase Event	8.327***	8.757***	7.940***	8.231***
	(1.412)	(1.377)	(1.203)	(1.168)
WIC HH x No. of WIC Eligible Persons	2.738**	2.268*	2.279**	1.974**
	(1.172)	(1.165)	(0.924)	(0.931)
Constant	42.814***	41.374***	44.183***	42.384***
	(3.393)	(3.747)	(2.548)	(2.860)
State fixed effect	No	Yes	No	Yes
N	1,423	1,423	2,509	2,509
R2	9.000%	12.900%	8.300%	11.100%
Adjusted R2	7.800%	10.100%	7.600%	9.400%
F Statistic	7.308***	4.541***	11.890***	6.810***

Standard errors are reported in parentheses and are clustered by block group of the household

Note:*p<0.1; **p<0.05; ***p<0.01.

Table 5: Spatial Model Estimates for the Sample of Households with Income Below 185% of Poverty, Dependent Varaiable is the Household HEI

	Spatial Lag Model				Spatial Error Model			
	Estimate	Std. Error	z value	Pr(>|z|)	Estimate	Std. Error	z value	Pr(>|z|)
(Intercept)	44.022	2.419	18.201	0.000	44.515	2.422	18.381	0.000
Food Access	-0.239	0.660	-0.362	0.718	-0.249	0.670	-0.372	0.710
WIC participation (binary)	-4.284	1.284	-3.338	0.001	-4.266	1.280	-3.334	0.001
Number of WIC eligible persons	-1.116	0.583	-1.913	0.056	-1.048	0.582	-1.799	0.072
Hispanic (proportion)	3.475	0.750	4.631	0.000	3.865	0.746	5.180	0.000
Education (highest attainment in HH)	0.344	0.108	3.178	0.001	0.343	0.108	3.177	0.001
Average HH income ($K)	0.042	0.097	0.435	0.664	0.022	0.097	0.231	0.818
Black (proportion)	0.296	0.695	0.426	0.670	0.423	0.701	0.604	0.546
Asian (proportion)	5.844	1.480	3.949	0.000	6.805	1.515	4.492	0.000
American Indian or Alaska Native (proportion)	-2.842	2.442	-1.164	0.245	-2.937	2.438	-1.205	0.228
Hawian or Pacific Islander (proportion)	8.791	5.084	1.729	0.084	8.325	5.077	1.640	0.101
Other race (proportion)	-0.033	1.021	-0.032	0.974	-0.223	1.031	-0.216	0.829
Nutrition Facts: Most of the Time	-0.489	0.891	-0.549	0.583	-0.485	0.890	-0.545	0.586
Nutrition Facts: Sometimes	-3.294	0.817	-4.032	0.000	-3.436	0.818	-4.199	0.000
Nutrition Facts: Rarely	-5.648	0.931	-6.070	0.000	-5.691	0.930	-6.117	0.000
Nutrition Facts: Never	-5.635	0.847	-6.655	0.000	-5.643	0.847	-6.663	0.000
Nutrition Facts: Never Seen	-6.364	2.254	-2.823	0.005	-6.423	2.250	-2.854	0.004
Nutrition education	2.623	1.120	2.343	0.019	2.528	1.113	2.272	0.023
WIC Purchase Event	8.053	1.285	6.269	0.000	8.180	1.281	6.388	0.000
WIC HH x No. of WIC Eligible Persons	2.260	0.943	2.397	0.017	2.100	0.941	2.231	0.026

N=2509
Rho: 0.027
LR test value: 6.969
p-value: 0.008

N=2509
Lambda: 0.116
LR test value: 7.748
p-value: 0.005

Moran's I statistic

standard deviate = 1.738	p-value = 0.041	
Moran I statistic	Expectation	Variance
0.042	-0.001	0.001

Lagrange multiplier diagnostics for spatial dependence

	Statistic	Parameter	P value
LMerr	6.827	1.000	0.008**
LMlag	7.001	1.000	0.008**
RLMerr	3.968	1.000	0.046*
RLMlag	4.141	1.000	0.042*
SARMA	10.969	2.000	0.004**

Table 6. Non-WIC Households with Income Below 185% of Poverty

Measure	Mean	Std. Dev	N
Total HEI score	49.101	12.951	1997
Primary Store to Nearest Clinic (miles)	3.439	4.454	1997
Clinic near Primary Store (binary)	0.213	0.410	1997
Clinics around Primary Store (count)	0.255	0.572	1997
Food Access	0.833	0.373	1997
Number of WIC eligible persons	0.158	0.464	1997
Hispanic (proportion)	0.220	0.400	1997
Education (highest attainment in HH)	20.200	2.422	1997
Average HH income ($K)	1.958	2.636	1997
Black (proportion)	0.186	0.377	1997
Asian (proportion)	0.037	0.184	1997
American Indian or Alaska Native (proportion)	0.020	0.110	1997
Hawian or Pacific Islander (proportion)	0.003	0.050	1997
Other race (proportion)	0.084	0.261	1997
Nutrition education	0.043	0.203	1997

Table 7. Parameter Estimates, Non-WIC Households, Dependent Variable is Household HEI

	Households Below 185% of Poverty		
Clinics around Primary Store (count)	0.375		
	(0.561)		
Clinic near Primary Store (binary)		-0.593	
		(0.763)	
Primary Store to Nearest Clinic (miles)			-0.025
			(0.075)
Food Access	-0.688	-0.66	-0.658
	(0.717)	(0.716)	(0.719)
Number of WIC eligible persons	-1.048**	-1.032**	-1.046**
	(0.506)	(0.509)	(0.506)
Hispanic (proportion)	2.861***	3.052***	2.939***
	(1.106)	(1.101)	(1.088)
Education (highest attainment in HH)	0.320**	0.311**	0.316**
	(0.132)	(0.132)	(0.132)
Average HH income ($K)	-0.111*	-0.116*	-0.113*
	(0.062)	(0.062)	(0.062)
Black (proportion)	0.381	0.475	0.423
	(0.891)	(0.879)	(0.880)
Asian (proportion)	6.106***	6.271***	6.174***
	(1.857)	(1.841)	(1.873)
American Indian or Alaska Native (proportion)	-2.486	-2.485	-2.498
	(2.254)	(2.259)	(2.253)
Hawian or Pacific Islander (proportion)	3.726	3.931	3.813
	(2.931)	(2.830)	(2.913)
Other race (proportion)	-0.767	-0.774	-0.769
	(1.170)	(1.176)	(1.172)
Nutrition Facts: Most of the Time	-0.89	-0.851	-0.885
	(1.153)	(1.158)	(1.152)
Nutrition Facts: Sometimes	-3.039***	-3.019***	-3.038***
	(0.973)	(0.972)	(0.973)
Nutrition Facts: Rarely	-6.031***	-6.049***	-6.036***
	(1.121)	(1.120)	(1.121)
Nutrition Facts: Never	-6.037***	-6.025***	-6.047***
	(1.045)	(1.043)	(1.044)
Nutrition Facts: Never Seen	-7.169***	-7.099***	-7.135***
	(2.660)	(2.677)	(2.670)
Nutrition education	2.588*	2.684*	2.625*
	(1.508)	(1.509)	(1.514)
Constant	43.985***	44.170***	44.258***
	(3.156)	(3.167)	(3.196)
State fixed effect	Yes	Yes	Yes
N	1,997	1,997	1,997
R2	10.500%	10.500%	10.500%
Adjusted R2	8.500%	8.500%	8.500%