AJAE appendix for "Measuring the Impact of Meat Packing and Processing Facilities in

Non-metropolitan Counties: A Difference-in-Differences Approach"

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Note: The material contained herein is supplementary to the article named in the title and

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This appendix contains supplementary material to the article named in the title and published in the *American Journal of Agricultural Economics*. In particular, it provides a section describing the methodology for generating propensity scores used in the paper as well as estimates from alternative specifications of the model (equations (6) and (7) in the paper). As it turns out, our results are not particularly sensitive to the type of estimation strategy used.

Propensity Score Matching

Let T designate the treatment group counties with meat packing plants at some point in the 1990-2000 period; and let C designate the control group of counties that never had an MPP plant in the period. The number of counties in the treatment group is N_T, and the number in the control group is N_C. The 1990 MPP employment share in county i of group j is S_{ij}. Consider a regression of S_{ij} on a vector of observable attributes of the county in 1990, $\boldsymbol{W}_{ij}$.

(A1) $S_{ij} = \boldsymbol{W}'_{ij}\,\boldsymbol{\Pi} + \varepsilon_{ij}$; $i = 1,2,\ldots.N_j$; $j=T,C$

where $\boldsymbol{W}_{ij}$ includes 1990 values of employment, income, wages, population, and government expenditures, 1990 the poverty rate and shares of high school and college graduates, and the USDA amenity index and a dummy variable indicating the presence of an interstate highway in the county. Also included are measures of agricultural activity in the county, such as share of cropland in pasture and marketed values of hogs, cattle, corn and soybeans that is believed to affect the probability of having a livestock processing plant. $\boldsymbol{\Pi}$ is a vector of parameters that are common across the T and C groups. The propensity score for each county is that county's predicted MPP employment share, $\hat{S}_{ij}$,

based on the county's observable attributes W_{ij}. Figure A1 charts the distribution of $\hat{S}_{ij}$ for the two groups. The distributions are relatively well matched, with slightly more mass in the treatment distribution toward higher predicted shares. The considerable overlap in the distributions suggests that the non-host, non-metropolitan counties in the study states serve as a good control group for the host counties.

The regression results from (A1) are available below. Propensity scores can also be based on probit variants of (A1) that treat the presence or absence of an MPP plant as a dichotomous state variable as opposed to the continuous employment share. The fit of the probit was poor and generated few significant coefficients, suggesting that the presence of a plant was close to a random event. Employment share equations provided greater variation in the dependent variable and a better fit.

Nearest Neighbor Match

Let $\hat{S}_{iT}$ be the propensity score for county i in the treatment group. That county's nearest neighbor is control county i' that satisfies the condition $min\left|\hat{S}_{iT} - \hat{S}_{lC}\right| \ \forall l \in C$. The matching is done with replacement so that the same control county l can serve as a match for several treatment counties, while other control counties fail to meet the matching criteria for any treatment county. Let $d \ln Q_{iT} - d \ln Q_{i'C}$ be the difference in growth outcomes between treatment county i and its nearest control neighbor i'. The treatment effect is measured by $(1/N_T)(\sum_{i=1}^{N_T}(d \ln Q_{iT} - d \ln Q_{i'C}))$.

Weighted Neighbor Matching

An alternative method makes use of all the information in the control group rather than just the information on the nearest neighbors. Order group T from smallest to largest $\hat{S}_{ij}$ and then subdivide group T into deciles. The lowest decile has $n_T = (N_T/10)$ observations with $\hat{S}_{ij}$ values ranging from $(-\infty, \hat{s}_{1T})$; the next decile also has n_T observations ranging from $(\hat{s}_{1T}, \hat{s}_{2T})$; and so on up to the highest decile of n_T observations ranging from $(\hat{s}_{9T}, +\infty)$. There is a corresponding number of control group counties lying in each range so that nc_1 counties lie within $(-\infty, \hat{s}_{1T})$; nc_2 lie within $(\hat{s}_{1T}, \hat{s}_{2T})$; and so on up to nc_{10} that lie within $(\hat{s}_{9T}, +\infty)$. In equation (8) in the text, each observation in the treatment group receives a weight of 1 while each observation in the control group is weighted by $\omega_i = nc_k/n_T$, for $k=1\ldots10$. This method overweights control observations for which $nc_k<n_T$ and underweights control observations for which $nc_k>n_T$.

Estimates for Generating the Propensity Score

Table A2 contains the estimation results from a regression of 1990 meat packing and processing employment share on a set of county level attributes believed to affect the probability of having a livestock processing plant as described above. The variables used in the estimation are described in Table A1.

Results with No Control Variables

Tables A3 and A4 provide estimates of δ in specifications of equations (6) and (7) that include no control variables. In fact, the addition of control variables does little to change the estimates. This is perhaps not surprising given the empirical specification. A major advantage of the first-difference approach is that it eliminates fixed county specific

unobservables that may affect growth. Adding additional county-level controls provides little new information.

Results from Full Specification

Table A5 lists the variables used in the full specification of the model. Table A6 reports the complete results from the weighted least squares regressions using log changes in employment share to measure the MPP industry.

Results from Ordinary Least Squares

Tables A7 and A8 provide estimates of δ from ordinary least squares estimation. These estimates differ little from those using weighted least squares estimation reported in the paper.

Results for 10-year Growth in Cross-Section

Tables A9 and A10 show estimates of δ from a regression of 1990-2000 growth in outcomes. In other words, instead of the panel dataset used in the paper, these reflect the impact of growth in meatpacking and processing on decadal growth.

Results Measuring Change in MPP Industry Employment and Wage Levels

The estimates in the paper reflect the impact of growth in the relative share of the MPP industry on various economic and social outcomes. We also estimated the impact of growth in the levels of MPP employment (in hundreds of jobs) and wages (in hundreds of dollars). These estimates are provided in tables A11 and A12 below.

In general, the signs are consistent, while significance levels diminish with changes in levels. This is what one might expect if adding 100 jobs in a small market is not the same as adding 100 jobs in a large market. It seems the more dominant the industry in a county, the more likely there are to be adverse impacts from its growth.

Results Using Nearest Neighbor Matching

In the propensity score matching section above we describe a strategy for selecting a control group known as "nearest neighbor" matching. Tables A13 and A14 report estimates of δ from regressions using this method to select control group counties. The results are very consistent with our weighted matched comparison.

We prefer our weighted matched comparison because the nearest neighbor matching strategy omits information contained in the control sample. For example, for all industries combined, the nearest neighbor matching with replacement used 324 out of a possible 806 counties. Nevertheless, the conclusions are comparable albeit less precise in the nearest neighbor matching.

Table A1. Definitions, Sources and Means for Variables Used in Propensity Score Matching

Variable	Description	Source	Mean
Dependent Variables			
Industry Emp. Share	County MPP employment/Total county employment, 1990	LDB, BEA	0.009
Industry Wage Share	County MPP wage bill /Total county earnings, 1990	LDB, BEA	0.013
Control Variables			
Pasture Share$_{87}$	Pasture acres/Land in farms (acres)	Census of Agriculture	0.107
Corn$_{87}$	Sales of Corn for grain ($000) / Land in farms (acres)	Census of Agriculture	0.014
Beans$_{87}$	Sales of Soybeans ($000) / Land in farms (acres)	Census of Agriculture	0.111
Cows$_{87}$	Cattle and calves sold ($1,000) / Land in farms (acres)	Census of Agriculture	0.038
Pigs$_{87}$	Hogs and pigs sold ($1,000) / Land in farms (acres)	Census of Agriculture	0.015
Poultry$_{87}$	Any poultry sold ($1,000) / Land in farms (acres)	Census of Agriculture	0.011
College Rate$_{90}$	Percent of county population with bachelor's degree or higher	U.S. Census	0.125
High School Rate$_{90}$	Percent of county population with a high school education	U.S. Census	0.553
Poverty Rate$_{90}$	Percent of county population with incomes below poverty, 1990	U.S. Census	0.181
Employment$_{90}$	Total wage and salary employment, 1990 ($0,000)	BEA	2.657
Wage$_{90}$	Average county real wage (Earnings / Wage and Salary Employment), 1990	BEA	1.684
Population$_{90}$	County population, 1990 (0,000)	U.S. Census	5.712

Income$_{90}$	County real personal income, 1990 ($0,000)	BEA	103.41
Total Govt	Total direct local government expenditures, 1990 ($0,000)	Census of Govt.	
Amenities	USDA Natural Amenities Index	USDA	-0.374
Interstate	Presence of an interstate highway	ESRI, ArcView 3.2	0.435
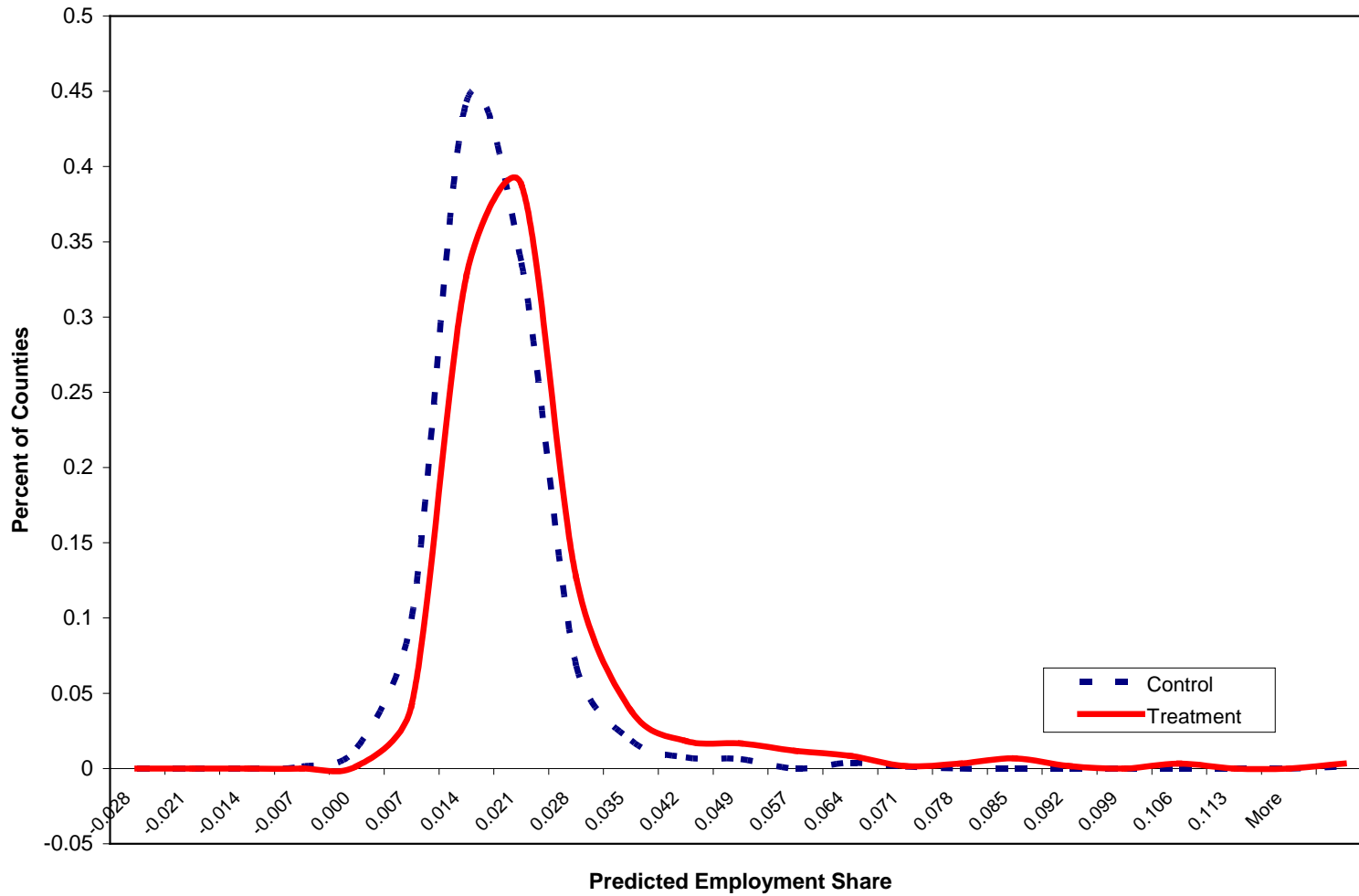
Figure A1. Distribution of predicted MPP employment share in 1990

Table A2. Predicted Share of MPP Employment in 1990

	All	Packing	Processing	Poultry
Dependent	*% MPP*	*% MPP*	*% MPP*	*% MPP*
Variable	*Employment*	*Employment*	*Employment*	*Employment*
Intercept	0.04***	0.00	0.02	0.04***
	(3.10)	(0.06)	(0.38)	(3.99)
Pasture Share$_{87}$	0.01***	-1.51	-0.77	14.64***
	(3.09)	(0.69)	(0.51)	(4.88)
Corn$_{87}$	0.07	0.04	-0.01	0.04
	(1.43)	(1.43)	(0.78)	(1.27)
Beans$_{87}$	0.03***	0.00	0.00	0.03***
	(2.32)	(0.22)	(0.14)	(3.01)
Cows$_{87}$	0.09***	0.09***	0.00	0.00
	(5.46)	(10.34)	(0.04)	(0.20)
Pigs$_{87}$	0.06	0.06***	0.03**	-0.03
	(1.52)	(2.67)	(2.23)	(1.03)
Poultry$_{87}$	0.17***	-0.01	0.00	0.17***
	(11.38)	(0.76)	(0.51)	(15.49)
HighSchool$_{90}$	-0.04**	-0.004	0.00	-0.03***
	(2.15)	(0.46)	(0.29)	(2.68)
College$_{90}$	-0.07***	-0.01*	-0.01	-0.05***
	(3.22)	(1.20)	(0.74)	(3.05)

PovertyRate$_{90}$	-0.02	0.00	0.00	-0.02*
	(1.35)	(0.30)	(0.32)	(1.87)
Employment$_{90}$	0.01***	0.004*	0.002	0.01***
	(3.59)	(1.71)	(1.08)	(3.01)
AverageWage$_{90}$	-0.01**	0.001	0.00	-0.01***
	(2.46)	(0.46)	(0.26)	(3.48)
Population$_{90}$	-0.003	-0.001	0.00	0.00
	(1.10)	(1.06)	(0.10)	(0.65)
GovtExp$_{90}$	0.002*	0.001***	0.00	0.00
	(1.92)	(32.94	(0.06)	(0.39)
Income$_{90}$	0.00**	0.00	0.00	0.00
	(2.01)	(1.27)	(0.72)	(1.40)
Amenities	0.00	0.00	0.00	0.00
	(0.82)	(1.59)	(0.84)	(0.36)
Interstate	-0.001	0.00	0.00	0.00
	(0.68)	(0.49)	(0.70)	(0.91)
R-square	0.1416	0.1104	0.0110	0.1904
n	1404	1404	1404	1404

Notes: t-statistics are in parentheses, * significant at the 10-percent level; ** significant at the 5-percent level; *** significant at the 1-percent level.

Table A3. Estimates of the Impact of Growth in the MPP Industry on Growth in Selected Indicators by Industry (No Control Variables)

	All Industries		Packing		Poultry		Processing	
	Employment Share	*Wage Share*	*Employment Share*	*Wage Share*	*Employment Share*	*Wage Share*	*Employment Share*	*Wage Share*
Dependent Variable	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**	**(8)**
Income	-0.04	0.08	-0.19***	-0.13	0.25***	0.25***	0.22	0.27*
	(0.46)	(0.99)	(3.72)	(1.14)	(2.82)	(3.55)	(0.63)	(1.85)
Income Per Capita	-0.09	0.03	-0.23***	-0.17	0.14	0.17**	0.24	0.27**
	(1.18)	(0.53)	(5.22)	(1.38)	(1.30)	(2.14)	(0.73)	(2.07)
Wage	-0.11**	-0.02	-0.05***	-0.03**	-0.34***	-0.11	-0.10	0.10
	(2.34)	(0.72)	(2.63)	(2.18)	(3.91)	(1.34)	(0.68)	(0.89)
Employment	0.36*	0.33**	0.11	0.15	1.06***	0.78***	0.30	0.10
	(1.85)	(2.27)	(1.46)	(1.42)	(5.02)	(5.24)	(1.20)	(0.81)
Net Employment	-0.32	-0.36**	-0.20	-0.37	-0.36***	-0.21*	-0.83***	-0.43***
	(1.53)	(2.42)	(0.83)	(1.50)	(2.75)	(1.87)	(3.33)	(4.30)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Total Govt. Exp.	0.05	0.01	0.06**	0.08	0.03	-0.11	-0.07	-0.04
	(1.51)	(0.34)	(2.02)	(1.47)	(0.26)	(0.86)	(0.49)	(0.58)
Educ. Govt. Exp.	0.05*	0.03	0.05***	0.05	0.13	0.04	-0.19	-0.04
	(1.77)	(0.80)	(2.93)	(1.42)	(1.15)	(0.33)	(1.36)	(0.76)
Police Govt. Exp.	0.02	0.01	0.09	0.07	-0.20	0.03	-1.27	-0.56
	(0.20)	(0.14)	(1.17)	(0.76)	(0.81)	(0.10)	(1.57)	(1.06)
Health Govt. Exp.	-0.04	0.21	0.00	-0.02	0.24	0.42	3.55	2.35
	(0.03)	(0.18)	(0.01)	(0.05)	(0.05)	(0.08)	(0.96)	(0.90)
Property Crime Rate	-0.84	-0.20	-0.16	-0.06	-1.59	0.52	-2.83	-2.43
	(0.45)	(0.22)	(0.24)	(0.14)	(0.32)	(0.16)	(0.81)	(1.03)
Violent Crime Rate	0.68	-0.09	1.31*	1.03**	-0.72	-0.54	-10.02	-8.83**
	(0.33)	(0.07)	(1.85)	(2.10)	(0.24)	(0.22)	(1.21)	(2.06)

Notes: cluster-consistent t-statistics are in parentheses, * significant at the 10-percent level; ** significant at the 5-percent level; *** significant at the 1-percent level. Two measures of industry size are reported; *Employment share* is the change in the proportion of MPP industry jobs in the county; *Wage share* is the change in the proportion of MPP industry wage bill in the county. Column (1) presents estimates for all MPP industries combined; column (2) shows estimates for the packing industry only (NAICS 311611),

column (3) provides estimates for the poultry processing industry only (NAICS 311615) and estimates for the processing industry (NAICS 311612, 311613 and 311412) are presented in the remaining columns. Weights are derived using a propensity score matching technique.

Table A4. Estimates of the Impact of Growth in the MPP Industry on Growth in Selected Indicators by Industry Presence (No Control Variables)

	Income	Wage	Employ-ment	Net Employ-ment	Total Govt. Exp.	Educ. Govt. Exp.	Police Govt Exp.	Health Govt. Exp.	Property Crime Rate	Violent Crime Rate
Continuous Presence of Industry										
Employment Share	0.08	-0.20***	0.64**	-0.71***	0.08	0.09	0.06	-0.29	-1.25	1.16
	(0.75)	(3.13)	(2.42)	(2.98)	(1.19)	(1.38)	(0.30)	(0.12)	(0.*7)	(0.49)
Wage Share	0.09	-0.01	0.35*	-0.46**	0.02	0.05	0.04	0.29	-0.25	0.32
	(0.92)	(0.22)	(1.84)	(2.68)	(0.42)	(1.00)	(0.46)	(0.17)	(0.25)	(0.22)
Gained Industry										
Employment Share	0.45***	-0.13	0.99***	-0.27***	-0.04	-0.17	-0.63**	-6.88***	-2.04	-3.59**
	(3.48)	(1.22)	(8.97)	(2.90)	(0.20)	(1.12)	(2.57)	(3.02)	(0.86)	(2.46)
Wage Share	0.29***	-0.10	0.79***	-0.13**	-0.08	-0.19	-0.47**	-4.57**	-1.89	-4.61***
	(2.68)	(1.37)	(12.05)	(2.18)	(0.52)	(1.63)	(2.24)	(2.31)	(1.09)	(4.39)
Lost Industry										
Employment Share	0.55*	-0.07	0.45	-0.63*	-0.01	0.08	0.08	2.92	8.04**	-0.05

Dependent Variable

(1.70)	(0.63)	(1.27)	(1.72)	(0.10)	(0.83)	(0.32)	(1.60)	(3.22)	(0.01)
Wage Share 0.50***	0.00	0.13	-0.42***	0.00	0.03	0.07	1.49	5.81***	-1.40
(10.28)	(0.08)	(0.65)	(3.03)	(0.05)	(0.53)	(0.65)	(1.16)	(5.55)	(0.15)

Both Gained and Lost

Employment Share -0.24***	-0.03***	0.04***	0.02***	0.03**	0.03***	0.05***	0.42***	4.33*	-0.24
(51.79)	(7.60)	(4.28)	(8.96)	(2.47)	(4.68)	(2.99)	(2.94)	(1.92)	(0.04)
Wage Share -0.43***	-0.06***	0.08***	0.03***	0.03	0.04	0.05	0.73**	4.16**	0.15
(19.48)	(5.01)	(3.26)	(3.35)	(0.77)	(1.34)	(1.18)	(2.01)	(2.34)	(0.03)

Notes: cluster-consistent t-statistics are in parentheses, * significant at the 10-percent level; ** significant at the 5-percent level; *** significant at the 1-percent level. Two measures of industry size are reported; *Employment share* is the change in the proportion of MPP industry jobs in the county; *Wage share* is the change in the proportion of MPP industry wage bill in the county. Counties are classified into five groups; continuous, the meat packing industry was present in the county continuously throughout the study period; gained, the county gained the industry; lost, the county lost the meat packing industry; both, the county both gained and lost the industry during the study period; the omitted category is counties that never had the industry between 1990 and 2000. Weights are derived using a propensity score matching technique. See text for further details.

Table A5. Definitions, Sources and Means for Variables

Variable	Description	Source	Mean
Dependent Variables			
Income	Log difference in county total real personal income	BEA	0.022
Wages	Log difference in average county real wages	BEA	0.008
Employment	Log difference in county employment	BEA	0.016
Net Employment	Log difference in county employment minus industry employment	BEA, LDB	0.016
Total Govt Exp.	Log difference in total direct local govt. expenditures	Census of Govt.	0.034
Education Govt Exp.	Log difference in direct local govt. expenditures on education	Census of Govt.	0.062
Police Govt Exp.	Log difference in direct local govt. expenditures on police protection	Census of Govt.	0.032
Health Govt Exp.	Log difference in direct local govt. expenditures on health	Census of Govt.	0.301
Property Crime Rate	Log difference in property crime rates	FBI Uniform Crime Reports	0.100
Violent Crime Rate	Log difference in violent crime rates	FBI Uniform Crime Reports	0.158
Measures of the Meat Packing & Processing Industry			
Industry Emp. Share	Log difference in county MPP employment/total county employment	LDB, BEA	0.0001
Industry Wage Share	Log difference in county MPP wage bill /total county earnings	LDB, BEA	0.0002
Control Variables			
College Rate$_{90}$	Percent of county population with bachelor's degree or higher	U.S. Census	0.125
High School Rate$_{90}$	Percent of county population with high school education only	U.S. Census	0.553
Poverty Rate$_{90}$	Percent of county population with incomes below poverty, 1990	U.S. Census	0.181
College Rate Growth$_{90}$	Average annual rate of change in growth of College Rate$_{90}$	U.S. Census	0.010

H.S. Rate Growth$_{90}$	Average annual rate of change in growth of High School Rate$_{90}$	U.S. Census	0.025
Employment$_{90}$	Total wage and salary employment, 1990	BEA	26,566
Wage$_{90}$	Ave. county real wage, 1990 ($000)	BEA	16.836
Population$_{90}$	County population, 1990	U.S. Census	57,124
Income$_{90}$	County real personal income, 1990 ($000)	BEA	1,034,107
Property Crime Rate$_{90}$	Number of property crimes per 1,000 population, 1990	FBI Uniform Crime Reports	0.027
Violent Crime Rate$_{90}$	Number of violent crimes per 1,000 population, 1990	FBI Uniform Crime Reports	0.003
Amenities	USDA Natural Amenities Index	USDA	-0.374
Interstate	Presence of an interstate highway	ESRI, ArcView 3.2	0.435
Adjacent$_{90}$	County adjacent to a metropolitan area, 1990	USDA	0.238

Table A6. Estimates of the Impact of Growth in the MPP Industry on Growth in Selected Indicators, Full Specification

Dependent Variables

	Income	Wage	Employ-ment	Net Employment	Total Govt. Exp.	Educ. Govt. Exp.	Police Govt Exp.	Health Govt. Exp.	Property Crime Rate	Violent Crime Rate
Intercept	0.070***	0.040***	0.032***	0.029***	0.083**	0.027	0.112	1.255*	0.365	0.028
	(5.31)	(6.48)	(3.01)	(2.76)	(2.45)	(0.11)	(0.82)	(1.61)	(1.29)	(0.07)
High School$_{90}$	-0.069***	-0.013*	-0.019	-0.016	-0.028	0.035	0.062	-1.025	-0.203	-0.014
	(3.61)	(1.95)	(1.44)	(1.28)	(0.68)	(0.06)	(0.54)	(0.87)	(0.59)	(0.04)
College$_{90}$	0.024	0.004	0.065**	0.068**	-0.017	0.052	-0.197	0.153	-0.251	0.368
	(0.70)	(0.23)	(2.43)	(2.56)	(0.36)	(0.20)	(0.85)	(0.15)	(0.51)	(0.96)
Poverty Rate$_{90}$	-0.066***	-0.014**	-0.041**	-0.043**	-0.092**	0.037	0.187	-1.851	0.137	0.398
	(3.63)	(2.15)	(2.54)	(2.71)	(2.18)	(0.19)	(1.22)	(1.15)	(0.37)	(0.92)
Employment$_{90}$	0.000	0.001***	0.000	0.000	0.001*	0.000	0.000	-0.011	-0.001	0.002
(0,000s)	(1.09)	(4.31)	(1.60)	(1.59)	(1.90)	(0.00)	(0.01)	(0.48)	(0.20)	(0.40)
Wage$_{90}$ (0,000s)	0.000**	-0.001***	-0.001**	-0.001**	-0.001**	0.000	-0.004*	-0.018	0.000	0.003

	(2.34)	(11.98)	(2.77)	(2.61)	(2.57)	(0.00)	(1.90)	(0.99)	(0.05)	(0.85)
Population$_{90}$ (0,000s)	0.001***	0.000***	0.001***	0.001***	0.000	0.000	-0.001	0.024	-0.004	-0.003
	(3.80)	(4.72)	(4.09)	(4.20)	(0.40)	(0.00)	(0.78)	(1.40)	(1.57)	(0.88)
Total Govt Exp$_{90}$ (0,000s)	0.000	0.000**	0.000	0.000	0.000***	0.000	-0.001**	0.001	0.004	0.002
	(0.55)	(2.20)	(0.43)	(0.48)	(3.57)	(0.00)	(2.33)	(0.17)	(1.57)	(1.53)
Income$_{90}$ (0,000s)	0.000***	0.000	0.000**	0.000**	0.000	0.000	0.000	-0.001	0.000	0.000
	(4.19)	(0.37)	(2.32)	(2.40)	(0.46)	(0.00)	(1.33)	(1.37)	(0.18)	(0.82)
Property Crime Rate$_{90}$									-4.368***	-1.106
									(3.64)	(1.08)
Violent Crime Rate$_{90}$									3.073	-18.40**
									(0.61)	(2.45)
Amenity Index	0.002***	0.000	0.002***	0.002***	0.005***	0.001	0.010**	-0.001	0.006	-0.008
	(3.41)	(1.42)	(4.19)	(4.26)	(6.54)	(0.01)	(2.05)	(0.03)	(0.80)	(0.91)
Interstate	0.003**	0.001**	0.002**	0.002**	0.001	0.002	-0.010	-0.063	-0.024	0.005
	(2.55)	(2.33)	(2.25)	(2.27)	(0.25)	(0.01)	(0.95)	(0.75)	(0.97)	(0.17)
Adjacent	0.006***	0.002***	0.004***	0.004***	0.006**	0.002	0.013	-0.158	-0.060	0.053**
	(5.39)	(3.56)	(3.52)	(3.37)	(2.24)	(0.01)	(1.01)	(1.20)	(1.49)	(2.36)

Table A6 (continued)

	Income	Wage	Employ ment	Net Employ- ment	Total Govt. Exp.	Educ. Govt. Exp.	Police Govt Exp.	Health Govt. Exp.	Property Crime Rate	Violent Crime Rate
ΔIndustry Status	0.000	0.000	0.000	0.000	0.000	0.000	-0.004**	-0.027	-0.016***	-0.014***
	(0.16)	(1.23)	(0.51)	(0.01)	(0.44)	(0.00)	(2.49)	(1.54)	(3.35)	(2.93)
ΔHigh School	0.022	0.078	-0.064	-0.018	0.465*	0.210	-1.098	29.789	-4.778	-1.049
	(0.17)	(1.47)	(0.52)	(0.15)	(1.61)	(1.10)	(1.00)	(0.96)	(1.19)	(0.40)
ΔCollege	0.159***	0.043**	0.145***	0.153***	0.140**	0.067	0.048	-0.146	0.917	2.233
	(4.14)	(2.20)	(3.36)	(3.62)	(2.20)	(0.05)	(0.14)	(0.06)	(1.19)	(1.44)
ΔIndustry Emp Share	-0.038	-0.105**	0.363*	-0.314	0.059*	0.031	-0.045	-0.151	-0.929	0.735
	(0.40)	(2.28)	(1.85)	(1.52)	(1.78)	(0.04)	(0.47)	(0.14)	(0.47)	(0.35)
F-value	24.17	22.90	38.42	37.80	55.60	88.21	22.94	10.62	3.33	1.89

Notes: cluster-consistent t-statistics are in parentheses, * significant at the 10-percent level; ** significant at the 5-percent level; *** significant at the 1-percent level. The measure of industry size reported is *Employment share*, change in the proportion of MPP industry jobs in the county. Weights are derived using a propensity score matching technique. See text for further details.

Table A7. OLS Estimates of the Impact of Growth in the MPP Industry on Growth in Selected Indicators by Industry (No Control Variables)

Dependent Variable	All Industries		Packing		Poultry		Processing	
	Employment Share	*Wage Share*	*Employment Share*	*Wage Share*	*Employment Share*	*Wage Share*	*Employment Share*	*Wage Share*
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**	**(8)**
Income	-0.11	0.01	-0.21***	-0.16	0.28***	0.25***	0.20	0.25*
	(1.27)	(0.05)	(4.29)	(1.13)	(3.70)	(3.91)	(0.89)	(1.93)
Income Per Capita	-0.15*	-0.04	-0.24***	-0.20	0.18**	0.17**	0.25	0.26**
	(1.88)	(0.36)	(5.84)	(1.34)	(2.05)	(2.40)	(1.17)	(2.34)
Wage	-0.08**	-0.03	-0.04***	-0.02	-0.30***	-0.12*	-0.10	0.08
	(2.12)	(1.07)	(2.75)	(0.83)	(4.13)	(1.82)	(0.97)	(0.84)
Employment	0.25	0.32**	0.09	0.16	1.05***	0.80***	0.56**	0.23
	(1.53)	(2.34)	(1.52)	(1.60)	(7.22)	(8.08)	(2.04)	(1.29)
Net Employment	-0.18	-0.29**	-0.12	-0.30	-0.30***	-0.17**	-0.62***	-0.38***
	(1.16)	(1.97)	(0.73)	(1.25)	(3.51)	(2.34)	(2.67)	(3.55)

Total Govt. Exp.	0.03	0.01	0.06*	0.10*	-0.07	-0.16	-0.08	-0.05
	(1.58)	(0.46)	(1.85)	(1.70)	(0.63)	(1.55)	(0.52)	(0.70)
Educ. Govt. Exp.	0.03*	0.02	0.04**	0.05*	0.09	0.02	-0.23*	-0.09
	(1.75)	(0.75)	(2.46)	(1.69)	(0.81)	(0.19)	(1.89)	(1.37)
Police Govt. Exp.	-0.02	-0.05	0.13	0.17	-0.33*	-0.15	-0.99*	-0.53
	(0.29)	(0.77)	(1.07)	(0.85)	(1.71)	(0.77)	(1.77)	(1.22)
Health Govt. Exp.	-0.24	-0.04	0.13	0.41	-2.02	-1.69	1.01	0.98
	(0.40)	(0.04)	(0.56)	(0.78)	(0.57)	(0.46)	(0.32)	(0.42)
Property Crime Rate	-0.89	-0.35	-0.68	-0.34	-0.19	0.99	-3.86	-2.83
	(0.50)	(0.39)	(1.17)	(1.05)	(0.05)	(0.40)	(1.54)	(1.44)
Violent Crime Rate	0.67	-0.17	1.31*	0.94**	2.33	1.24	-9.31	-8.25**
	(0.35)	(0.13)	(1.71)	(1.97)	(0.60)	(0.40)	(1.55)	(2.26)

Notes: cluster-consistent t-statistics are in parentheses, * significant at the 10-percent level; ** significant at the 5-percent level; ***

significant at the 1-percent level. Two measures of industry size are reported; *Employment share* is the change in the proportion of

MPP industry jobs in the county; *Wage share* is the change in the proportion of MPP industry wage bill in the county. Column (1)

presents estimates for all MPP industries combined; column (2) shows estimates for the packing industry only (NAICS 311611),

column (3) provides estimates for the poultry processing industry only (NAICS 311615) and estimates for the processing industry (NAICS 311612, 311613 and 311412) are presented in the remaining columns. Weights are derived using a propensity score matching technique.

Table A8. OLS Estimates of the Impact of Growth in the MPP Industry on Growth in Selected Indicators by Industry Presence (No Control Variables)

				Dependent Variable						
			Employ-ment	*Net Employ-ment*	*Total Govt. Exp.*	*Educ. Govt. Exp.*	*Police Govt Exp.*	*Health Govt. Exp.*	*Property Crime Rate*	*Violent Crime Rate*
	Income	*Wage*								
Continuous Presence of Industry										
Employment Share	0.10	-0.19***	0.66**	-0.49***	0.14**	0.14**	0.07	0.43	-1.43	1.34
	(0.94)	(3.07)	(2.45)	(2.83)	(2.15)	(1.96)	(0.34)	(0.17)	(0.62)	(0.54)
Wage Share	0.11	0.00	0.36*	-0.45**	0.05	0.07	0.05	0.68	-0.34	0.47
	(1.02)	(0.09)	(1.86)	(2.57)	(0.90)	(1.38)	(0.52)	(0.38)	(0.33)	(0.32)
Gained Industry										
Employment Share	0.35***	-0.17**	1.03***	-0.22***	-0.20	-0.21*	-0.85***	-6.62***	-1.61	-2.11
	(3.51)	(2.36)	(10.11)	(2.70)	(1.12)	(1.94)	(2.82)	(2.84)	(0.57)	(1.13)
Wage Share	0.23***	-0.11*	0.79***	-0.12**	-0.13	-0.18**	-0.69***	-5.42**	-1.83	-3.85***
	(3.00)	(1.67)	(10.55)	(2.13)	(0.81)	(1.96)	(2.88)	(2.41)	(1.01)	(3.55)
Lost Industry										
Employment Share	0.52	-0.02	0.46	-0.63*	-0.01	0.08	-0.04	1.11	7.54**	-0.76

	(1.62)	(0.19)	(1.28)	(1.69)	(0.10)	(1.03)	(0.23)	(0.61)	(3.99)	(0.08)
Wage Share	0.48***	0.03	0.13	-0.42***	-0.01	0.02	0.00	0.59	5.36***	-1.92
	(9.58)	(0.52)	(0.65)	(3.05)	(0.23)	(0.47)	(0.01)	(0.61)	(4.35)	(0.21)

Both Gained and Lost

Employment Share	-0.26***	-0.03***	0.03***	0.02***	0.03***	0.02***	0.06	0.05	0.52	1.68
	(28.62)	(6.85)	(5.29)	(4.87)	(2.81)	(2.83)	(1.13)	(0.24)	(0.32)	(0.29)
Wage Share	-0.46***	-0.05***	0.07***	0.02**	0.02	0.02	0.08	0.23	0.91	1.77
	(16.19)	(5.31)	(3.92)	(2.28)	(0.77)	(0.81)	(0.92)	(0.46)	(0.61)	(0.30)

Notes: cluster-consistent t-statistics are in parentheses, * significant at the 10-percent level; ** significant at the 5-percent level; *** significant at the 1-percent level. Two measures of industry size are reported; *Employment share* is the change in the proportion of MPP industry jobs in the county; *Wage share* is the change in the proportion of MPP industry wage bill in the county. Counties are classified into five groups; continuous, the meat packing industry was present in the county continuously throughout the study period; gained, the county gained the industry; lost, the county lost the meat packing industry; both, the county both gained and lost the industry during the study period; the omitted category is counties that never had the industry between 1990 and 2000. Weights are derived using a propensity score matching technique. See text for further details.

Table A9. Estimates of the Impact of Growth in the MPP Industry on Growth in Selected Indicators by Industry (10-year change)

	All Industries		Packing		Poultry		Processing	
	Employment Share	*Wage Share*	*Employment Share*	*Wage Share*	*Employment Share*	*Wage Share*	*Employment Share*	*Wage Share*
Dependent Variable	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**	**(8)**
Income	0.81**	0.54	1.36**	0.79**	0. 17*	0.60	-0.46	-0.43
	(2.62)	(2.47)	(2.51)	(2.18)	(1.73)	(1.59)	(0.76)	(0.95)
Wage	-0.05	-0.07	0.29	0.12	-0.24*	-0.15	-0.53	-0.42
	(0.41)	(0.92)	(1.14)	(0.80)	(1.92)	(1.35)	(1.30)	(1.31)
Employment	1.17***	0.83***	1.78***	1.10***	0.91***	0.59**	0.28	0.12
	(3.97)	(3.82)	(3.41)	(3.07)	(2.61)	(2.06)	(0.33)	(0.22)
Net Employment	-0.34	-0.26	0.20	0.11	-0.58*	-0.58*	-1.13	-0.76
	(1.30)	(1.23)	(0.46)	(0.39)	(1.79)	(1.92)	(1.29)	(1.50)
Total Govt. Exp.	0.09	-0.05	0.43	0.35	-0.22	-0.16	-0.48	-0.55
	(0.15)	(0.12)	(0.42)	(0.55)	(0.22)	(0.24)	(0.59)	(1.22)
Educ. Govt. Exp.	0.39	0.10	1.09	0.68	0.41	0.20	-1.10	-1.85**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	(0.69)	(0.30)	(1.34)	(1.33)	(0.39)	(0.32)	(1.63)	(2.05)
Police Govt. Exp.	-0.01	0.28	-0.52	-0.34	0.11	1.26	0.77	-0.69
	(0.01)	(0.42)	(0.33)	(0.36)	(0.05)	(0.78)	(0.61)	(1.08)
Health Govt. Exp.	-15.09	-17.09	-17.43	-9.76	-45.69	-63.29*	8.57	7.12
	(0.41)	(0.70)	(0.64)	(0.55)	(1.36)	(1.94)	(0.15)	(0.29)
Property Crime Rate	-1.63	-1.29	-7.26**	-4.36*	0.28	0.20	0.89	0.33
	(1.14)	(1.37)	(1.97)	(1.77)	(0.16)	(0.15)	(0.19)	(0.11)
Violent Crime Rate	-0.34	-0.58	7.87*	5.79*	0.07	0.23	-20.73*	-12.65*
	(0.14)	(0.30)	(1.77)	(1.93)	(0.02)	(0.07)	(1.80)	(1.70)

Notes: cluster-consistent t-statistics are in parentheses, * significant at the 10-percent level; ** significant at the 5-percent level; *** significant at the 1-percent level. Two measures of industry size are reported; *Employment share* is the change in the number of MPP industry jobs in the county; *Wage share* is the change in the amount of MPP industry wage bill in the county. Column (1) presents estimates for all MPP industries combined; column (2) shows estimates for the packing industry only (NAICS 311611), column (3) provides estimates for the poultry processing industry only (NAICS 311615) and estimates for the processing industry (NAICS 311612, 311613 and 311412) are presented in the remaining columns. Weights are derived using a propensity score matching technique.

Table A10. Estimates of the Impact of Growth in the MPP Industry on Growth in Selected Indicators by Industry Presence (10-year change)

	Income	Wage	Net Employ-ment	Employ-ment	Total Govt. Exp.	Educ. Govt. Exp.	Police Govt Exp.	Health Govt. Exp.	Property Crime Rate	Violent Crime Rate
Continuous Presence of Industry										
Employment Share	1.01**	0.03	1.24***	-0.33	0.71	1.17*	0.83	-32.31	-1.81	-0.09
	(2.42)	(0.20)	(3.18)	(0.95)	(1.16)	(1.84)	(0.64)	(1.03)	(1.06)	(0.03)
Wage Share	0.69**	-0.01	0.81***	-0.30	0.34	0.59	1.13	-30.00	-1.38	-0.15
	(2.33)	(0.08)	(2.68)	(1.08)	(0.77)	(1.47)	(1.18)	(1.22)	(1.15)	(0.06)
Gained Industry										
Employment Share	0.44	-0.24*	0.91***	-0.55*	-0.17	-0.08	-2.29**	52.61	-4.33**	-2.59
	(1.56)	(1.81)	(2.85)	(1.89)	(0.22)	(0.13)	(2.20)	(0.37)	(2.14)	(0.77)
Wage Share	0.23	-0.20**	0.74***	-0.36*	-0.46	-0.39	-1.67**	23.00	-2.83**	-1.64
	(1.31)	(1.96)	(3.77)	(1.82)	(0.83)	(0.91)	(2.08)	(0.28)	(2.43)	(0.64)
Lost Industry										

Dependent Variable

Employment Share	0.25	-0.07	1.88	0.69	-5.82*	-6.84*	2.56	-23.21	12.40**	5.58
	(0.37)	(0.26)	(1.62)	(0.55)	(1.87)	(1.88)	(1.39)	(0.36)	(2.52)	(0.50)
Wage Share	0.48	-0.03	1.91***	1.08	-2.46	-3.48	1.31	5.41	8.20*	-1.00
	(0.97)	(0.13)	(3.12)	(1.44)	(1.12)	(1.18)	(0.77)	(0.11)	(1.89)	(0.12)

<u>Both Gained and Lost</u>

Employment Share	-3.92	-2.70**	-6.14**	-7.24***	-32.18	-14.30	-65.75**	-37.22	-31.07*	3.68
	(1.09)	(2.29)	(2.53)	(3.02)	(0.85)	(1.43)	(3.79)	(0.09)	(1.57)	(0.09)
Wage Share	-5.05	-3.24***	-7.22**	-8.12**	-25.78	-10.24	-57.85**	-154.30	-25.44	8.39
	(1.24)	(2.81)	(2.14)	(2.42)	(0.88)	(1.03)	(3.23)	(0.45)	(1.23)	(0.23)

Notes: cluster-consistent t-statistics are in parentheses, * significant at the 10-percent level; ** significant at the 5-percent level; *** significant at the 1-percent level. Two measures of industry size are reported; *Employment share* is the change in the proportion of MPP industry jobs in the county; *Wage share* is the change in the proportion of MPP industry wage bill in the county. Counties are classified into five groups; continuous, the meat packing industry was present in the county continuously throughout the study period; gained, the county gained the industry; lost, the county lost the meat packing industry; both, the county both gained and lost the industry during the study period; the omitted category is counties that never had the industry between 1990 and 2000. Weights are derived using a propensity score matching technique.

Table A11. Estimates of the Impact of Growth in the MPP Industry on Growth in Selected Indicators by Industry

	All Industries		Packing		Poultry		Processing	
	Employment	*Wage*	*Employment*	*Wage*	*Employment*	*Wage*	*Employment*	*Wage*
	Level	*Level*	*Level*	*Level*	*Level*	*Level*	*Level*	*Level*
Dependent Variable	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**	**(8)**
Income	-0.01	0.04	-0.09	0.05**	0.24	0.05	0.03	-0.01
	(0.10)	(1.19)	(0.76)	(2.25)	(1.43)	(0.88)	(0.19)	(0.40)
Income Per Capita	-0.04	0.02	-0.17	0.02	0.11	0.02	0.06	-0.01
	(0.50)	(0.62)	(1.29)	(0.99)	(0.71)	(0.34)	(0.46)	(0.45)
Wage	-0.16***	-0.01	-0.13**	-0.03*	-0.08	0.00	-0.02	0.00
	(2.80)	(0.95)	(2.25)	(1.65)	(0.60)	(0.02)	(0.23)	(0.22)
Employment	0.38***	0.04**	0.25***	0.04**	0.06***	0.11***	0.26**	0.04
	(6.16)	(2.05)	(3.31)	(2.12)	(4.24)	(4.17)	(2.59)	(1.46)
Net Employment	-0.21*	-0.04**	-0.19	0.00	-0.05	0.00	-0.07	-0.02
	(1.66)	(2.02)	(0.94)	(0.40)	(0.77)	(0.04)	(0.55)	(0.58)
Total Govt. Exp.	0.03	0.03	0.09	0.04*	-0.05	-0.01	0.07	0.01

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	(0.27)	(1.22)	(0.80)	(1.82)	(0.49)	(0.26)	(0.67)	(0.47)
Educ. Govt. Exp.	0.00	-0.02	0.05	0.00	0.06	0.02	0.06	0.00
	(0.05)	(1.01)	(0.67)	(0.18)	(0.55)	(0.66)	(0.62)	(0.09)
Police Govt. Exp.	-0.00	-0.04	0.13	0.00	0.08	0.03	-0.12	-0.04
	(0.05)	(1.13)	(0.70)	(0.08)	(0.36)	(0.43)	(0.90)	(1.38)
Health Govt. Exp.	-1.34	0.88	-1.66	0.60	2.83	2.44	0.31	0.75
	(0.73)	(1.54)	(0.69)	(1.49)	(0.89)	(1.35)	(0.29)	(1.29)
Property Crime Rate	0.30	0.51***	-1.99	0.21	-0.68	0.10	-5.50	-1.78
	(0.38)	(2.74)	(1.22)	(0.54)	(0.41)	(0.38)	(0.90)	(1.06)
Violent Crime Rate	1.42	-0.21	1.11	-0.49	-1.12	0.11	-2.43	-0.69
	(0.81)	(0.41)	(0.68)	(0.90)	(0.47)	(0.26)	(0.75)	(0.91)

Notes: cluster-consistent t-statistics are in parentheses, * significant at the 10-percent level; ** significant at the 5-percent level; *** significant at the 1-percent level. Two measures of industry size are reported; *Employment level* is the change in the number of MPP industry jobs in the county (in hundreds of jobs); *Wage level* is the change in the amount of MPP industry wage bill in the county (in hundreds of dollars). Column (1) presents estimates for all MPP industries combined; column (2) shows estimates for the packing industry only (NAICS 311611), column (3) provides estimates for the poultry processing industry only (NAICS

311615) and estimates for the processing industry (NAICS 311612, 311613 and 311412) are presented in the remaining columns.

Weights are derived using a propensity score matching technique. See text for further details.

Table A12. Estimates of the Impact of Growth in the MPP Industry on Growth in Selected Indicators by Industry Presence

<u>Dependent Variable</u>

	Income	*Wage*	*Employ-ment*	*Net Employ-ment*	*Total Govt. Exp.*	*Educ. Govt. Exp.*	*Police Govt Exp.*	*Health Govt. Exp.*	*Property Crime Rate*	*Violent Crime Rate*
<u>Continuous Presence of Industry</u>										
Employment Level	0.16	-0.10	0.76**	-0.30	0.00	0.06	0.19	-3.96	0.07	4.30
	(1.06)	(0.91)	(5.24)	(0.86)	(0.02)	(0.60)	(0.74)	(0.82)	(0.04)	(1.16)
Wage Level	0.30**	0.09	0.59***	-0.26	0.01	0.01	0.20	6.89	-0.54	5.13
	(2.11)	(0.08)	(4.73)	(0.80)	(0.09)	(0.15)	(0.80)	(0.53)	(0.39)	(1.11)
<u>Gained Industry</u>										
Employment Level	-0.18	-0.28**	0.23	-0.38**	0.00	-0.23*	-0.53*	-5.22**	-1.21	-2.98
	(0.98)	(2.19)	(1.28)	(2.48)	(0.03)	(1.67)	(1.68)	(2.40)	(0.54)	(1.21)
Wage Level	-0.10	-0.18***	0.08	-0.01	-0.04	-0.11*	-0.34***	-2.54***	-0.04	-0.66
	(1.31)	(2.71)	(1.23)	(1.51)	(0.37)	(1.74)	(2.66)	(2.83)	(0.05)	(0.51)
<u>Lost Industry</u>										
Employment Level	0.00	-0.20*	0.27	-0.14	0.03	0.15	0.29	-0.32	0.36	2.44
	(0.01)	(1.64)	(1.60)	(0.74)	(0.23)	(0.95)	(1.23)	(0.10)	(0.18)	(0.75)

Wage Level	0.02	0.05	0.09**	0.00	0.15**	0.02	0.00	3.70**	1.14**	-1.42
	(0.34)	(1.08)	(2.08)	(0.02)	(1.98)	(0.32)	(0.04)	(2.10)	(2.61)	(0.77)

<u>Both Gained and Lost</u>

Employment Level	-0.24	-0.13	0.02**	0.01	-0.05	-0.03	-0.01	3.67*	0.001	-0.84
	(1.20)	(1.38)	(2.17)	(0.24)	(0.30)	(0.39)	(0.56)	(1.68)	(0.18)	(0.27)
Wage Level	0.04	-0.01	0.01	-0.02	-0.01	-0.01	0.02	0.81	0.33	-0.46
	(0.81)	(0.39)	(0.35)	(0.87)	(0.42)	(0.45)	(0.70)	(1.47)	(1.61)	(0.65)

Notes: cluster-consistent t-statistics are in parentheses, * significant at the 10-percent level; ** significant at the 5-percent level; *** significant at the 1-percent level. Two measures of industry size are reported; *Employment level* is the change in the number of MPP industry jobs in the county (in hundreds of jobs); *Wage level* is the change in the MPP industry wage bill in the county (in hundreds of dollars). Counties are classified into five groups; continuous, the meat packing industry was present in the county continuously throughout the study period; gained, the county gained the industry; lost, the county lost the meat packing industry; both, the county both gained and lost the industry during the study period; the omitted category is counties that never had the industry between 1990 and 2000. Weights are derived using a propensity score matching technique. See text for further details.

Table A13. Estimates of the Impact of Growth in the MPP Industry on Growth in Selected Indicators by Industry (Nearest Neighbor Matching)

Dependent Variable	All Industries		Packing		Poultry		Processing	
	Employment Share	*Wage Share*	*Employment Share*	*Wage Share*	*Employment Share*	*Wage Share*	*Employment Share*	*Wage Share*
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Income	-0.11	0.18*	0.09	-0.17	0.23**	0.24***	0.29	0.30**
	(1.29)	(1.71)	(0.50)	(1.43)	(2.61)	(3.16)	(0.75)	(1.97)
Income Per Capita	-0.15**	0.14*	0.00	-0.21	0.09	0.16**	0.23	0.27*
	(1.98)	(1.66)	(0.05)	(1.54)	(0.85)	(1.93)	(0.62)	(1.84)
Wage	-0.07*	-0.03	-0.08	-0.04***	-0.36***	-0.13	-0.04	0.14
	(1.94)	(0.77)	(1.37)	(3.74)	(4.02)	(1.46)	(0.21)	(1.04)
Employment	0.24	0.40**	0.421	0.13	1.11***	0.81***	0.20	0.03
	(1.48)	(2.40)	(1.37)	(1.54)	(5.09)	(5.31)	(0.76)	(0.28)
Net Employment	-0.17	-0.40**	-0.86***	-0.32	-0.32**	-0.19*	-0.91***	-0.46***
	(1.09)	(2.71)	(2.68)	(1.26)	(2.45)	(1.74)	(3.34)	(4.33)

Total Govt. Exp.	0.04*	-0.01	0.20	0.07	0.11	-0.05	0.10	0.01
	(1.93)	(0.22)	(1.35)	(1.62)	(0.87)	(0.42)	(0.62)	(0.10)
Educ. Govt. Exp.	0.06**	0.00	0.11	0.05	0.21*	0.10	-0.06	-0.03
	(2.21)	(0.06)	(1.22)	(1.60)	(1.72)	(0.83)	(0.43)	(0.59)
Police Govt. Exp.	-0.05	-0.04	0.46	0.02	-0.18	0.06	-0.88	-0.56
	(0.59)	(0.35)	(0.73)	(0.50)	(0.72)	(0.28)	(1.09)	(0.97)
Health Govt. Exp.	-0.21	0.03	0.97	0.25	0.32	-0.25	4.56	2.47
	(0.34)	(0.02)	(0.50)	(0.39)	(0.07)	(0.06)	(0.96)	(0.79)
Property Crime Rate	-0.70	-0.16	-0.63	-0.36	-0.87	1.40	-2.73	-2.09
	(0.33)	(0.16)	(1.01)	(1.05)	(0.15)	(0.38)	(0.59)	(0.72)
Violent Crime Rate	0.54	-0.14	1.26*	1.32*	-0.54	3.11	-11.97	-9.30**
	(0.26)	(0.10)	(1.69)	(1.84)	(0.15)	(0.66)	(1.33)	(2.18)

Notes: cluster-consistent t-statistics are in parentheses, * significant at the 10-percent level; ** significant at the 5-percent level; ***

significant at the 1-percent level. Two measures of industry size are reported; *Employment share* is the change in the proportion of

MPP industry jobs in the county; *Wage share* is the change in the proportion of MPP industry wage bill in the county. Column (1)

presents estimates for all MPP industries combined; column (2) shows estimates for the packing industry only (NAICS 311611),

column (3) provides estimates for the poultry processing industry only (NAICS 311615) and estimates for the processing industry

(NAICS 311612, 311613 and 311412) are presented in the remaining columns. Weights are derived using a propensity score

matching technique.

Table A14. Estimates of the Impact of Growth in the MPP Industry on Growth in Selected Indicators by Industry Presence (Nearest Neighbor Matching)

					Dependent Variable						
			Net Employ-ment	*Employ-ment*	*Total Govt. Exp.*	*Educ. Govt. Exp.*	*Police Govt Exp.*	*Health Govt. Exp.*	*Property Crime Rate*	*Violent Crime Rate*
	Income	*Wage*								
Continuous Presence of Industry										
Employment Share	0.11	-0.19***	0.67**	-0.69***	0.14*	0.14**	-0.07	0.89	-1.74	1.31
	(0.97)	(3.07)	(2.45)	(2.82)	(1.87)	(1.97)	(0.24)	(0.34)	(0.72)	(0.53)
Wage Share	0.11	0.00	0.37*	-0.42**	0.04	0.08	0.02	0.64	-0.47	0.27
	(1.04)	(0.08)	(1.87)	(3.13)	(0.92)	(1.45)	(0.21)	(0.36)	(0.43)	(0.19)
Gained Industry										
Employment Share	0.55**	-0.19*	1.24***	-0.03	-0.32**	-0.17	-0.83	-6.84**	-1.25	-3.63*
	(2.20)	(1.74)	(15.72)	(0.35)	(2.20)	(0.72)	(1.07)	(2.05)	(0.21)	(1.90)
Wage Share	0.33***	-0.20*	0.77***	-0.14	-0.30*	-0.41***	-0.33	-5.31**	0.29	-3.29
	(2.71)	(3.34)	(5.75)	(1.43)	(1.75)	(5.04)	(0.80)	(2.16)	(0.09)	(1.52)
Lost Industry										

Employment Share	0.53	-0.02	0.46	-0.63*	-0.04	0.10	0.29	0.60	7.81***	-0.90
	(1.64)	(0.19)	(1.28)	(1.69)	(0.29)	(1.10)	(0.41)	(0.31)	(3.67)	(0.10)
Wage Share	0.48***	0.02	0.13	-0.42***	-0.01	0.01	0.04	0.61	-1.38	-1.15
	(9.44)	(0.50)	(0.65)	(3.13)	(0.23)	(0.36)	(0.35)	(0.64)	(0.42)	(0.12)
Both Gained and Lost										
Employment Share	-0.25***	-0.02***	0.03***	0.02**	0.03***	0.04***	-0.01	-0.42	0.91	-3.67
	(38.00)	(4.83)	(3.05)	(2.24)	(4.50)	(4.95)	(0.57)	(1.50)	(0.21)	(0.35)
Wage Share	-0.14***	0.00	0.63***	-0.20	-0.64**	-0.50**	-0.77	3.99*	6.01***	-0.21
	(0.27)	(0.00)	(3.50)	(1.56)	(2.12)	(2.20)	(1.10)	(1.63)	(3.07)	(0.04)

Notes: cluster-consistent t-statistics are in parentheses, * significant at the 10-percent level; ** significant at the 5-percent level; *** significant at the 1-percent level. Two measures of industry size are reported; *Employment share* is the change in the proportion of MPP industry jobs in the county; *Wage share* is the change in the proportion of MPP industry wage bill in the county. Counties are classified into five groups; continuous, the meat packing industry was present in the county continuously throughout the study period; gained, the county gained the industry; lost, the county lost the meat packing industry; both, the county both gained and lost the industry during the study period; the omitted category is counties that never had the industry between 1990 and 2000. Weights are derived using a propensity score matching technique. See text for further details.