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More Employers, More Jobs, More Money: An Empirical Analysis of Local Economic Development Policy Impacts in U.S. Cities

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Summary: Local government leaders in the U.S. employ a multitude of programs and policies in the name of economic development to increase the number of firms, employment, wages, and, of course, the tax base. The past few decades have seen a surge in local economic development policies, yet research analyzing their effectiveness is sparse. This study analyzes the relationship between local economic development policy and economic growth in a data set of 412 U.S. cities. Results indicate that policy has only has a weak correlation with economic growth, suggesting that growth is determined more by market conditions rather than government intervention. The article concludes with an entrepreneurial policy approach this author believes may yield development results in an era of limited policy effectiveness.

Key words: Economic development, Cities, Attraction, Retention, Incentives

JEL: H70, O20, O51

Introduction

City governments face the classic economic problem of resource scarcity, and they must choose how to allocate scarce resources among numerous competing interests. Public and private sector leaders employ a multitude of programs and policies commonly dubbed "economic development" activities with the goal of increasing output resulting in economic growth and higher living standards for all in the region.

This study is an analysis of the economic development policy impacts in American cities. The inquiry is guided by the age-old question, "To what extent can government influence markets?" The major hypothesis of this study is, "The level of public sector economic development activity in U.S. cities is positively correlated with local economic growth." All other things being equal, cities that are more proactive in their economic development activity should have more eco-

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nomic growth. The study uses a large data set of American cities built from multiple sources to analyze the relationship between economic development programs and economic growth in as measured by increases in firms, jobs, and income.

1. The Current State of the Literature

An immense body of literature exists in the scholarly, trade, and popular presses disclosing the latest economic development methods, programs and practices, yet only a few empirical studies have examined the impact of these programs. It is thought that local economic development policies result in positive as measured by jobs, firms, tax revenue, and incomes (see for example, Ahlbrandt and DeAngeliz, 1987; Bowman, 1988; Bartik, 1991, Eisenschitz, 1993; Eisinger, 1988; Schwarz and Volgy, 1992; Reese and Fasenfest, 1997;and Jeong and Feiock, 2006). Some of the literature indicates, however, that certain economic development efforts yield no results, or possibly even negative results (see for example, Schmenner, 1984; Feiock, 1991; Lynch, 1995; Green, Fleischmann, and Kwong, 1996; Dewar, 1998; Hinkley and Hsu, 2000; and Oakley and Tsao, 2006). Dellar and Stallman, however, observing "there are no low tax-high income states" suggest that the market alone may not provide all that is needed for economic growth (p. 537, 2007). Sometimes the results are mixed. Greenbaum and Enberg (2004) found that economic development policy tended to help new firms, while having no positive effect on existing firms. If economic development practices are ineffective, public resources have been wasted. Public funds earmarked for economic development could have potentially been put to better use elsewhere.

The scant empirical research generally contends that government economic development efforts are only modestly correlated with economic growth. A common theme throughout the literature, as Dewar (1998) points out, is that government development programs rarely "develop" as much as was hoped. The ever increasing availability of online information also threatens to make economic developers obsolete (Levine, 2006), as firms require less assistance with site selection.

In the wake of "federal retrenchment" from urban problems, local city government officials have become more proactive in managing their economic affairs (Feiock, 1991). In light of resource scarcity and the never-ending list of demands from city residents, it is important to discover whether local policies have any positive impact on local economies. City-level analysis is preferable because a city's greatest competitors are typically its neighboring cities (Tiebout, 1956; Calzonetti and Walker, 1991; Schmenner, 1994). Public choice theory contends that cities compete against each other for economic growth (Tiebout, 1956). Therefore the use of individual municipalities as the unit of analysis is important in a comparative study of local economic development policy.

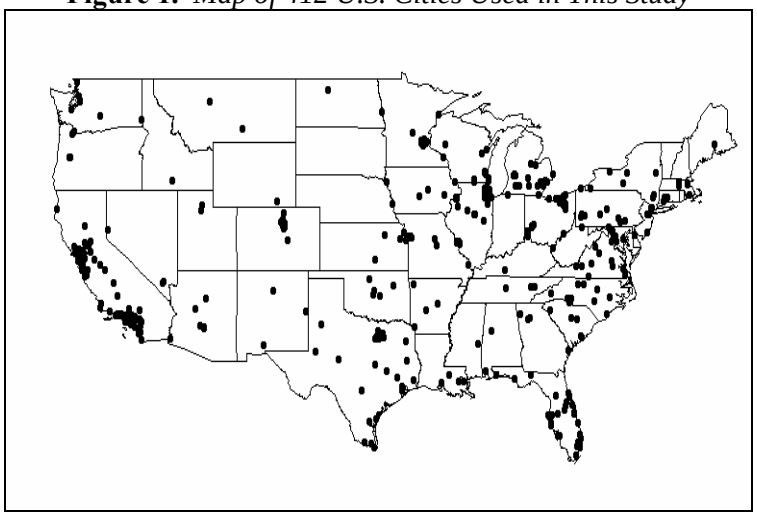
1.1 Contribution to the Literature

This study adds to the existing body of research in three significant ways. First, unlike most of the previous studies, this study uses a large set of U.S. cities (n = 412) to represent all U.S. cities with populations over 25,000 (N = 1,070). Second, because economic development policy is designed to have wide impacts on a local economy, this study considers growth in the number of firms, jobs, and income, as evidence of economic growth. Third, this study adds to the existing body of research by analyzing whether firms or individuals benefit more from economic development policy by comparing private firm income gains and personal income gains in the same statistical model.

2. Data

This study uses cities with populations greater than 25,000 as the unit of analysis and analyzes economic growth from one period to another. Data regarding economic conditions in U.S. cities are gleaned from the 1994 and 2000 *County and City Data Books* from the U.S. Census Bureau. Data regarding the economic development practices of U.S. municipalities come from the 1999 *Economic Development* mail survey conducted by the International City/County Management Association (ICMA). The 912 ICMA records were merged with the 1,070 Census records resulting in a final data set consisting of the 412 cities shown in Figure 1. Difference of means tests confirmed that the 412 sample cities are representative of the population of 1,070 cities.

Figure 1. *Map of 412 U.S. Cities Used in This Study*



2.1 Dependent Variables

To measure economic growth across time, the difference in a particular economic indicator is calculated from an earlier time period (typically 1987) to a later time period (typically 1997). Financial data are expressed in constant 1997 dollars—that is, the 1987 figures have been adjusted for inflation. Table 1 shows a complete list of the dependent variables and displays the descriptive statistics for these variables.

Table 1. Descriptive Statistics for Dependent Variables, Measures of Economic Growth

	n	Minimum	Maximum	Mean	St. Dev.
Dependent Variables Related to the Number of Firms					
Growth, mfg firms	410	-343.0	182.0	-1.5	45.0
Growth, retail firms	412	-6,772.0	123.0	-477.3	647.7
Dependent Variables Related to the Labor Force					
Growth, jobs	412	-21,043.5	208,471.4	7,733.8	16,639.5
Growth, mfg employees	366	-48,764.0	20,823.0	-1,740.5	5,627.2
Growth, retail employees	412	-39,978.0	4,371.0	-2,244.0	4,145.7
Dependent Variables Related to Income*					
Mfg. value-added growth	352	-4,869,558	3,705,732	33,102.0	611,492.3
Retail sales growth	412	-1,004,363.6	3,103,016.4	136,767.4	391,928.7
Per capita income growth	406	-5,232.2	14,605.6	1,715.8	1,025.4

*Expressed in 1997 constant dollars.
Source: U.S. Census, County and City Data Books, 1994 and 2000.

2.2 Independent Variables

Variables from the ICMA data set that measure economic development policy and practice serve as independent variables in this study. These variables represent the four principal economic development objectives of attraction, retention, business development, and equity planning. The policy variables are scale variables measuring the number of policies used by a particular city. Descriptive statistics are shown in Table 2.

The economic development staff size variable is a measurement of a city's human resource investment into economic development activity. To con-

trol for population size; this variable is expressed as capita per staff, that is the number of citizens per economic development worker. Similarly, the economic development budget variable measures the amount of money budgeted for economic development. Larger cities are expected to have larger budgets, so to control for population size, this variable is expressed as budget per capita. If economic development programs are effective in promoting growth, we then expect growth to be correlated with such investment.

Table 2. *Descriptive Statistics for Independent Variables, Measures of ED Policy*

	n	**Minimum**	**Maximum**	**Mean**	**St. Dev.**
Independent Variables Related to Economic Development Policy					
Capita Per ED Staff	295	1,843.5	1,205,278.0	43,856.7	79,575.8
ED Budget Per Capita	363	$0.0	$421.6	$16.1	$45.7
Total E.D. Initiatives	412	0.0	55.0	24.7	12.6
Public-Private Partnerships	412	0.0	9.0	2.3	1.7
Independent Variables Related to Business Attraction and Retention					
% Time On Attraction	352	0.0	100.0	25.1	18.2
Attraction Techniques	412	0.0	13.0	5.4	3.6
Use Of Incentives	412	0.0	15.0	5.2	4.0
% Time On Retention	362	0.0	100.0	29.0	21.7
Retention Techniques	412	0.0	12.0	4.6	3.0
Independent Variables Related to Business Development					
% Time On Development	358	0.0	100.0	38.1	25.0
Use Of Sm. Bus. Dev.	412	0.0	9.0	2.0	2.1
Use Of Loans	412	0.0	4.0	1.5	1.5
Independent Variables Related to Equity Planning					
Use Of "Equity" Techniques	412	0.0	6.0	2.6	1.8

Source: ICMA Economic Development Survey, 1999.

The "time spent on…" variables report the percentage of time that economic development officials reported spending on attracting, retaining, or devel-

oping businesses in their city. Different cities have different economic conditions, bringing into to question the endogeneity of their development policy approach. A city experiencing market-driven growth such as San Jose, California, the heart of Silicon Valley's tech industry, will perhaps invest few public resources towards attracting and retaining firms. A city whose economy is on the decline, however, may put more resources into attracting and retaining firms. In this study, the endogeneity problem is somewhat ameliorated by the ten year time lag between economic measurements. Table 3 shows the frequency of the use of specific development policies. The public-private partnerships are considered newer "third-wave" techniques (Strother, 2005). Equity planning policies are designed to bring economic benefits to the least fortunate in depressed areas of cities.

Table 3. Percentage of U.S. Cities Using Certain Economic Development Policies

Business Retention Policies	**%**	**Business Attraction Policies**	**%**	**Incentives**	**%**
NGO partnerships for retention	78	Promotional material	82	Zoning and permit assistance	72
Calling on local companies	74	Websites	70	Tax abatements	54
Local business surveys	60	Conference attendance	61	Tax increment financing	50
Partnering with local gov'ts	42	Community resource databases	54	Grants	45
Business roundtables	41	Calling on companies	52	Low-cost loans	40
Revolving loan programs	36	Trade show participation	50	One-stop permit issuance	39
Publicity for local firms	32	Media advertising	44	Free land or land write-down	39
Achievement awards	24	Regional resource pooling	43	Training support	36
Calling nat'l firm headquarters	22	Direct mail	40	Local enterprise zones	27
Ombudsman programs	22	Hosting special events	30	Federal/state enterprise zones	27
Export assistance	11	Trade missions abroad	14	Tax credits	25
Import replacement	3	Ambassador programs	12	Regulatory flexibility	23
				Utility rate reduction	19
				Special assessment districts	18
				Relocation assistance	18
				Employee screening	16
				Subsidized buildings	11

Public-Private Partnerships	%	Business Development Policies	%	Equity Planning Policies	%
PPP with NGOs	70	Revolving loan funds	59	Community dev. loan funds	55
PPP to develop ED policy	42	Business development centers	49	CDC's	53
PPP with other governments	41	Matching improvement grants	32	Welfare-to-Work	49
PPP to provide job training	19	Marketing assistance	29	Local ED zones	27
PPP for ED zones	14	Business incubators	25	Microenterprise	27
PPP to support CDC's	12	Mgmt. training	17	Job training	19
PPP to support Welfare-to-Work	11	Executive/mentor on loan	14		
PPP for microenterprise	7	Vendor/supplier matching	9		

Loan Policies	%
Revolving development loans	59
Community dev. loan funds	55
Low-cost loans	40
Revolving retention loans	39

CDC = Community Development Corporation
Source: ICMA Economic Development Survey, 1999

2.3 Control Variables

Control variables that represent factors that affect city economies are also included in this study. A complete list of the control variables and their descriptive statistics is shown in Table 4. Three variables are dummy variables (0 = *no*, 1 = *yes*), which are manufacturing economic base, technology economic base, and mayoral form of government.

Table 3. Descriptive Statistics, Control Variables

	n	Minimum	Maximum	Mean	St. Dev.
1990 Population	412	25,063	1,111,030	87,951.8	119,913.0
Pop. Growth 1990-2000	412	-48,496	332,062	11,161.0	27,713.6
Manufacturing Economic Base	412	0.00	1.00	0.16	0.36
Technology Economic Base	412	0.00	1.00	0.04	0.20
Taxes Per Capita	397	$67.0	$2,1730	$434.6	$255.6
Expenditures Per Capita	397	$301.0	$4,088.0	$987.5	$539.3
Mayoral Form Of Gov't	412	0.00	1.00	0.15	0.36
Crime Rate, 1990	412	-	37,903.0	6,580.7	4,044.7
% Hs Grads, 1990	412	26.3	96.6	78.5	10.4
% College Grads, 1990	412	1.7	71.2	24.0	12.1
January Temp, Avg.	412	5.9°	68.1°	38.5°	15.1°

Sources: ICMA Economic Development Survey, 1999, U.S. Census, County and City Data Books, 1994 and 2000.

3. Methodology

OLS regression is used to determine whether the economic development policies employed at the local government level are statistically significant and positively correlated with measures of economic growth in U.S. cities. Since the 412 cities comprise over a third (38.5%) of the population of 1,070 U.S. cities with populations over 25,000, the statistically insignificant correlations may prove to be practically significant due to the proportionally large sample. Three models are used: the firm growth model, the job growth model, and the income growth model.

Economic indicators serve as dependent variables in each model. Using SPSS, the independent variables are entered into each model in blocks. The first block contains all of the control variables, and then the second block adds the economic development policy variables. The coefficient of multiple determination (R^2) indicates the amount of the variance in the dependent variable that is explained, or accounted for, by these independent control variables (Lind, Marchal, and Wathen, 2003, p. 435). The change in the adjusted coefficient of multiple determination (adjusted R^2 change) from the first block to the second block indicates the additional amount of the variance in the dependent variable that is accounted for by the economic development policy variables.

4. Results

4.1. Firm Growth Model

The firm growth model tests the hypothesis that cities that are more proactive in their efforts to attract, retain, and develop firms are those cities that experience growth in the absolute number of firms. Growth in the number of manufacturing firms and growth in the number of retail firms serve as the dependent variables.

5.1.1. Manufacturing Firm Growth

Table 4 reports that about 32% of the variance in manufacturing firm growth is explained by the control variables (adjusted R^2 = .319). Standardized regression coefficients for control and independent variables (β) are shown in the "Beta" column. Population growth is statistically significant and positively correlated with the dependent variable ($p \leq 0.001$, $\beta = .527$) which confirms the parallel migratory patterns of individuals and firms described by Koven and Shelley (1989). The technology economic base variable is also significant and positively correlated with the dependent variable ($p \leq 0.05$, $\beta = .099$) confirming the role of high-tech as a driver of economic growth.

Evidently cities with higher populations ($p \leq 0.001$, $\beta = -.548$), higher taxes ($p \leq 0.001$, $\beta = -.191$), and higher crime rates ($p \leq 0.1$, $\beta = -.094$) are experiencing a decline or slower growth in the number of manufacturing firms. These results confirm the trends of manufacturing firms deserting larger, high-crime cities in favor of smaller growing cities that are most likely in suburban locations.

Adding the policy variables in the second block only explains an additional two percent of the variance in manufacturing firm growth (adjusted R^2 change = .024). The percent time spent on attraction variable is significant and positively correlated with increased numbers of manufacturing firms ($p \leq 0.05$, $\beta = .126$). Although the standardized regression coefficient is small, we have some evidence that cities focusing more time on attraction are more likely to experience manufacturing firm growth. Conversely, the number of attraction techniques variable is significant and negatively correlated in this regression ($p \leq 0.1$, $\beta = -.103$). Perhaps this finding is evidence of the inefficacy of a "shot-gun" policy approach. Rather than employing a vast array of attraction techniques, cities might consider focusing their attraction efforts according to their economic base, such as is suggested in the literature espousing cluster-strategies (see for example, Porter, 1998).

The number of retention techniques is also significant and positively correlated in this regression ($p \leq 0.05$, $\beta = .157$). Cities employing a wider array of retention policies are more likely to expand their numbers of manufacturers.

Overall, the regression coefficients for these policy variables are small, indicating weak correlation. The overall interpretation of these regression results is that economic development policy variables only have a modest impact on the number of manufacturing firms in a city over and above that of the controls.

5.1.2 Retail Firm Growth

Using retail firm growth as the dependent variable, Table 4 reports that the block of control variables explains about 41 percent of the variance in the dependent variable (adjusted R^2 = .409). Because the absolute number of retail firms is in decline (median = -307) this variable is more of a measure of slower decline rather than actual growth.

Population growth is significant and negatively correlated with retail firm growth ($p \leq 0.001$, β = -.559), perhaps explained by the trends of suburbanization and consolidation. By 1987 (the first time period of this study) much of the migration of retail firms from the urban core to suburban locations (i.e. shopping malls, strip malls) was complete. By 1997 (the second time period of this study) the absolute number of these retailers was shrinking, due to consolidation, as big box retail stores, such as Wal-Mart, Target and Best Buy, replace smaller shops. Places with higher population growth (i.e. suburban cities) lost more retail firms simply because they had more small shops to lose.

The significant negative correlation of the local tax variable ($p \leq 0.001$, β = -.146) again illustrates private firms' preference for low tax areas. Crime rates are also negatively correlated with retail firm growth ($p \leq 0.001$, β = -.250), which is expected as retailers tend to avoid areas with many negative externalities, especially crime.

The average January temperature is a significant positive predictor of retail firm growth ($p \leq 0.05$, β = .095). This is expected because retail firm locations are based on the presence of a retail market. National migration trends show that the South and West (warmer areas) are experiencing positive net migration, while the Northeast and Midwest (colder areas) are experiencing negative net migration (Franklin, 2003). In other words, as Americans move south with their retail shopping dollars, retailers follow with their wares.

Entering the policy variables in the second block explains only an additional two percent of the variance in retail firm growth (adjusted R^2 change = .021). The number of attraction techniques is the only policy variable positively correlated with retail firm growth ($p \leq 0.05$, β = .116). This can be interpreted that the cities employing a greater number of attraction techniques are more likely to experience growth in the number of retail firms.

The number of incentive techniques variable is significant and negatively correlated with retail firm growth ($p \leq 0.05$, β = -.165). It is unlikely that the offering of more types of incentives exerts a causal effect on the number of

retail firms. More than likely, the significance of this variable reflects the reality that cities experiencing retail decline are probably experiencing many other economic hardships also. In desperate times, city leaders have been known to make riskier speculative decisions, such as incentives, with public funds.

Table 4. Firm Growth Model Regression Results

	Mfg. Firm Growth		**Retail Firm Growth**	
Control Variables	Beta		Beta	
population	-.552	***	†	
population growth	.494	***	-.572	***
mfg. economic base	-.015		-.007	
tech. economic base	.102	**	-.043	
local taxes (capita)	-.210	***	-.159	***
mayor form of gov't	-.011		.024	
crime rate	-.087	*	-.251	***
% high school grads	.045		.008	
January temp. avg.	.048		.066	
Policy Variables				
ED staff size (capita)	-.046		-.034	
ED budget (capita)	-.044		-.047	
% time on attraction	.126	**	.029	
attraction techniques	-.103	*	.116	**
% time on retention	-.005		-.047	
retention techniques	.157	**	-.028	
% time on development	.000		-.042	
develop. techniques	.091		-.011	
loans	.041		-.033	
incentives	-.042		-.165	**
PPP	-.034		.001	
n	412		412	
Block 2 *F*	11.71	***	17.30	***
Block 1 Adjusted R^2	.319		.409	
Block 2 Adjusted R^2	.343		.430	
Adjusted R^2 change	.024	**	.021	**

* $P \leq 0.1$ ** $P \leq 0.05$ *** $P \leq 0.001$

† excluded due to multicollinearity

4.2. Job Growth Model

The job growth model tests the hypothesis that cities that are more proactive in their economic development efforts experience growth in the number of jobs. The dependent variables in these models are the absolute difference in the number of jobs from 1987 to 1997.

4.2.1. Overall Job Growth

Table 5 reports that only about six percent of the variance in overall job growth is explained by the control variables (adjusted R^2 = .060). Similar to a previous regression, the technology economic base is significant and positively correlated with overall job growth ($p \leq 0.05$, β = .108). This reflects structural changes as the macroeconomy takes on more characteristics of the New Economy. The high school graduate percentage variable is also significant and positively correlated with job growth. This underscores the important role of human capital development as an essential part of economic growth.

Crime rates are also significant and positively correlated with overall job growth ($p \leq 0.001$, β = .219). Perhaps the dynamism that creates jobs also attracts non-law abiding citizens. The local tax variable is again significant and negatively correlated with economic growth ($p \leq 0.1$, β = -.094) again illustrating the inclination of businesses to avoid high tax areas.

Adding the policy variables in the second block explains an additional two percent of the variance in overall job growth (adjusted R^2 change = .024). The development techniques variable accounts for much of this change. It is statistically significant and contributes to prediction of overall job growth more than all of the other variables in this regression ($p \leq 0.001$, β = .220). These results emphasize the important role entrepreneurial development policies play in economic growth.

Economic development staff size is also significant and positively correlated with overall job growth ($p \leq 0.1$, β = .081). City governments employing larger (per capita) numbers of economic development practitioners are experiencing more job growth than cities with smaller staffs.

Noting that this regression only explains about eight percent of the variance in job growth (adjusted R^2 = .084) illustrates that job growth is perhaps more dependent upon market factors than policy and the control variables included in this regression. However, the regression coefficient for the business development techniques variable is larger than any of the others suggesting these techniques are more likely to foster job growth than other techniques.

4.2.2 Manufacturing Job Growth

Using manufacturing job growth as the dependent variable, Table 5 reports that the control variables in the first block explain about thirty five percent of the variance in manufacturing job growth (adjusted R^2 = .351). Most of this manufacturing job growth is accounted for by the population variable which is significant and negatively correlated with manufacturing job growth ($p \leq 0.001$, β = -.687) consistent with a massive body of literature that documents the decline of manufacturing jobs in larger cities, as explained by the trends of mechanization (labor replaced by machines), globalization (labor replaced by cheap overseas labor), and suburbanization (production moved from cities to suburban sites). Suburban cities are smaller than central cities and have higher population growth rates which explains why the population growth variable is statistically significant and positively correlated with manufacturing job growth ($p \leq 0.001$, β = .382).

Local government taxes are again statistically significant and negatively correlated with job growth ($p \leq 0.001$, β = -.155), which can be interpreted various ways. Perhaps job-creating firms are tax-averse and avoid high-tax areas. Or perhaps the loss of jobs (or lack of growth of jobs) in a city forces that city to place higher per capita tax burdens on the workers that remain employed. Cities experiencing economic decline, such as many Rust Belt cities, are often saddled with crumbling infrastructure which requires greater public investment for maintenance.

Adding the economic development policy variables to the regression in the second block results in no change in the explained variance in manufacturing job growth (adjusted R^2 change = .000). The economic development budget per capita variable is the only statistically significant policy variable ($p \leq 0.1$, β = -.079). The correlation is negative, indicating that cities investing more money in economic development still experience less manufacturing job growth.

4.2.3. Retail Job Growth

In the retail job growth regression the control variables explain almost twenty four percent of the variance in retail job growth (adjusted R^2 = .239). The significant positive correlation of the January temperature variable ($p \leq 0.05$, β = .132) reveals that retail job growth largely follows the migration pattern from the North and East, to the West and South.

The local tax rate variable is statistically significant and negatively correlated with the dependent variable ($p \leq 0.001$, β = -.222) underscoring the relationship between higher tax rates and slower economic growth. Population growth is also significant and negatively correlated with retail job growth ($p \leq 0.001$, β = -.331); further evidence of the trend of retail consolidation. Cities

with severely declining populations may have already lost much of the retail base and would not show any additional job loss. The crime rate variable is also significant and negatively correlated with retail job growth ($p \leq 0.001$, $\beta = -.274$) perhaps reflecting retailers' aversion to high-crime areas.

Adding the policy variables improves the prediction of retail job growth by about two percent (adjusted R^2 change = .018). The incentives variable is significant and once again negatively correlated with the dependent variable ($p \leq 0.05$, $\beta = -.171$), demonstrating that cities offering more types of fiscal incentives to businesses are more likely cities that are losing retail jobs. The fact that economic development policy has little positive correlation with retail jobs is expected because economic decisions are driven by profit potential, not the amount of government programs.

Table 5. Job Growth Model Regression Results

	Overall Job Growth		**Mfg. Job Growth**		**Retail Job Growth**	
Control Variables	Beta		Beta		Beta	
population	†		-.673	***	†	
population growth	†		.359	***	-.344	***
mfg. economic base	.043		-.021		.041	
tech. economic base	.099	**	-.014		-.020	
local taxes (capita)	-.108	**	-.160	***	-.237	***
mayor form of gov't	-.033		-.007		.035	
crime rate	.218	***	-.056		-.288	***
% high school grads	.197	***	.036		.001	
January temp. avg.	.054		.032		.108	**
Policy Variables						
ED staff size (capita)	.081	*	-.040		-.048	
ED budget (capita)	.005		-.079	**	-.043	
% time on attraction	.003		.051		.066	
attraction techniques	.045		-.007		.059	
% time on retention	-.076		.010		-.050	
retention techniques	.047		.059		-.069	
% time on develop.	.024		-.025		-.061	
develop. techniques	.220	***	.006		-.042	
loans	-.079		-001		-.039	
incentives	-.019		-.001		-.171	**
PPP	-.051		-.017		-.026	
"equity" techniques	.023		.036		.081	
n	412		412		412	
Block 2 *F*	2.97	***	11.49	***	8.13	***
Block 1 Adjusted R^2	.060		.351		.239	
Block 2 Adjusted R^2	.084		.349		.257	
Adjusted R^2 change	.024	**	-.002		.018	**

* $P \leq 0.1$ ** $P \leq 0.05$ *** $P \leq 0.001$

† excluded due to multicollinearity

4.3. Income Growth Model

The income growth model tests the hypothesis that economic development policy has positive impacts on personal and corporate income. The dependent variables are growth in per capita income, growth in manufacturing value added, and growth in retail sales. Growth is measured as the inflation-adjusted difference in income from 1987 to 1997.

4.3.1. Per Capita Income Growth

In this regression shown in Table 6, per capita income growth from 1990 to 1999 is the dependent variable. The control variables explain fifteen percent of the variance in income growth (adjusted R^2 = .148). Significant predictors of income growth include the technology base ($p \leq 0.01$, β = .146), higher percentages of high school graduates ($p \leq 0.001$, β = .248) and cooler climates ($p \leq 0.001$, β = .330). An additional four percent (adjusted R^2 change = .035) of the variance in income growth is explained by the policy variables. Consistent with earlier findings, the incentive variable is once again negatively correlated with growth ($p \leq 0.10$, β = -.161). Although not statistically significant (p = .140), the percent time spent on development had the highest beta value, underscoring the importance of a policy approach that favors entrepreneurship and business development.

4.3.2. Manufacturing Value Added

The manufacturing value added growth variable is a proxy measure of the aggregate profitability of all manufacturing firms in the study cities from 1987 to 1997. The control variables in this regression explain thirteen percent of the variance in manufacturing value added growth (adjusted R^2 = .130). This entire variance is accounted for by two variables. The population variable is significant and negatively correlated with manufacturing value added ($p \leq 0.001$, β = -.254). The population growth variable is also significant but is positively correlated with the dependent variable ($p \leq 0.001$, β = .490), indicating the value added of manufacturing firms in larger cities is not growing as much as it is in smaller cities. Inspection of the data revealed manufacturing value added actually dropped by an average of $123,624 in the largest quartile (103 largest cities). The smallest quartile of study cities experienced an average manufacturing value added growth of $78,238. This is no doubt a reflection of two trends: the shift of manufacturing from larger Rust Belt cities to smaller Sun Belt cities, and the shift of manufacturing from urban core cities to the suburbs.

Adding the policy variables to the model did not improve the prediction of the dependent variable (adjusted R^2 change = -.007) and none of the policy

variables were statistically significant. It appears that local economic development policy has no discernable impact on the value added of manufacturing firms in a city.

4.3.3. Retail Sales Growth

Retail sales growth is the change in inflation-adjusted sales from 1987 to 1997 for all retailers within a city. The control variables explain about nine percent of the variance in retail sales growth (adjusted R^2 = .086). Population is significant and positively correlated with retail sales ($p \leq 0.001$, $\beta = .178$). The percentage of high school graduates variable is also significant and positively correlated with retail sales growth ($p \leq 0.001$, $\beta = .248$). Larger cities and cities with higher levels of human capital appear to have higher volumes of retail sales. The tax variable is again significant and negatively correlated with the dependent variable ($p \leq 0.05$, $\beta = -.163$). Apparently retail sales are lower in cities with higher taxes.

Adding the policy variables explains an additional two percent of the variance in retail sales (adjusted R^2 change = .019). The percent time spent on attraction variable is significant and positively correlated with retail sales ($p \leq 0.05$, $\beta = .130$), and the number of attraction techniques is significant but negatively correlated with retail sales ($p \leq 0.1$, $\beta = -.117$). The modest correlations of these policy variables raises doubts about the ability of economic development officials to impact retail sales in their city.

The income growth model was designed to compare the benefits of economic development policy experienced by individuals (per capita income) to the benefits experienced by firms (manufacturing value added, and retail sales growth). But in all three of the regressions, economic development policy had no substantial impact on the income growth of either individuals or firms. The apparent answer to the question, "Who benefits more, individuals or firms?" is "neither." The income growth of individuals and the income growth of firms have no substantial correlation with economic development policy. Local government taxes and expenditures also have no substantial correlation with income growth. Another possible explanation is that the benefits of economic development policy are experienced by only certain individuals or firms, and these benefits are indiscernible in this study's aggregate data.

Table 6. Income Growth Model Regression Results

	Per Capita Income Growth		***Mfg. Value Added Growth***		***Retail Sales Growth***	
Control Variables	Beta		Beta		Beta	
population	-.085		-.239	***	.175	**
population growth	.120		.490	***	†	
mfg. economic base	-.414		-.074		.079	
tech. economic base	.146	**	-.001		.040	
local taxes (capita)	-.091		-.018		-.053	
mayor form of gov't	-.054		.009		.014	
crime rate	.091		-.034		.089	*
% high school grads	.248	***	.004		.144	**
January temp. avg.	-.330	***	-.067		-.073	
Policy Variables						
ED staff size (capita)	.001		-.069		-.044	
ED budget (capita)	-.045		-.001		.059	
% time on attraction	.049		-.051		.130	**
attraction techniques	-.051		.039		-.117	*
% time on retention	.099		.007		.038	
retention techniques	.027		-.006		-.050	
% time on develop.	.156		-.056		-.005	
develop. techniques	.034		-.045		-.010	
loans	-.036		-.017		-.010	
incentives	-.161	*	.037		-.047	
PPP	.114		.080		.043	
"equity" techniques	-.026		-.086		.036	
n	221		412		412	
Block 2 *F*	3.35	***	3.76	***	3.41	***
Block 1 Adjusted R^2	.148		.130		.086	
Block 2 Adjusted R^2	.183		.123		.105	
Adjusted R^2 change	.035		-.007		.019	*

* $p \leq 0.1$ ** $p \leq 0.05$ *** $p \leq 0.001$

5. Conclusions

This study discovers only modest evidence that local government economic development programs are correlated with economic growth in American cities. Despite this discouraging news, the results of this study do have certain applications to real-life local economic development policy decisions noted below.

5.1. Entrepreneurial Development

The use of business development techniques was statistically significant and positively correlated with overall job growth in this study. Research shows that small businesses and start-up companies are responsible for much of the job creation and economic growth in the U.S (Birch, 1987; Edmiston, 2007). Therefore it is recommended that economic development officials commit to the development of new entrepreneurial firms and the expansion of existing firms using techniques such as business incubators, microenterprise programs, revolving loan funds, matching improvement grants, marketing assistance, management training, executive on loan programs, and other similar programs. Many of these business development initiatives provide capital and training, two essential elements needed by any start-up business.

5.2. Develop High Tech

Economic hardship in U.S. cities is often blamed on manufacturing sector declines. But every city has not experienced a decline in manufacturing. In fact, cities with a technology economic base were more likely to experience growth in the number of manufacturing firms and the overall number of jobs as reported in two of the regressions. Instead of an overall decline in manufacturing, what is occurring is a shift towards high-tech manufacturing, which is responsible for "about two-thirds of U.S. economic growth since 1990" (Bee, 2000, p. 15).

5.3. Human Capital Investment

The high school graduate variable was statistically significant and positively correlated with economic growth in three of the regressions. Previous studies have shown a link between human capital and economic growth (Becker, 1970; Asefa and Huang, 1994), and an empirical study by Warner notes, "Evidence suggests that a strategy focusing on human capital is more effective at stimulating per capita income growth than one designed to reduce firm costs" (1989, p. 389). In other words, investing in a city's workers may pay better dividends than investing in a city's firms.

5.4. Never Pay For Retail

Fiscal incentives are negatively correlated with growth in the number of retail firms and jobs. Retail firms make their location decisions primarily based on profit potential and government incentives are unlikely to influence a retail firm's location decisions, although the retail firm certainly will not turn down an incentive if offered. Knowing the futility of offering incentives to retail, certain local governments, such as Buncombe County, North Carolina prohibit such practices outright (Buncombe County Economic Development Incentive Policy, 1998).

5.5. Competitive Regionalism

When firms pit cities against each other in a bidding war for their mobile capital investment, such competition is often zero-sum "if it results in oversubsidization where the public incentives merely relocate a company between individual competing areas" (McCarthy, 2000, p. 1). A potential solution to the zero-sum game is so-called "competitive regionalism" which "involves cooperative networks of local public, private, and nonprofit bodies, with higher tiers of the state, that focus their economic development efforts for the benefit of the metropolitan region as a whole" (McCarthy, 2000, p. 1). Mallot (2007) suggests that local governments within a region collaborate with each other to develop the region.

5.6. Accountable Growth

Cities that give financial incentives to companies should hold those companies accountable for the economic growth they have promised through tools such as performance criteria, clawbacks, public disclosure, and a comprehensive plan. By agreeing on specific performance criteria up-front, a local government is able to "claw back" their forgone revenue. A firm that promises 500 new jobs but only creates 250 would be required to pay back half of the value of the received incentives. Greater public disclosure of incentives could also improve accountability, especially for politicians. A comprehensive plan makes incentives "available to all firms that satisfy eligibility criteria, rather than acting as bait to lure a particular company" (Ihlanfeldt, 1995, p. 341). Offering incentives more equally can eliminate the unjust practice of forcing existing firms and individuals to bear the tax burden of subsidized firms.

5.7. Focus on Individuals, not just Firms

If every city doles out corporate welfare equally, cities can therefore no longer expect an advantage over other cities simply by offering incentives. To cease

offering incentives, however, would put a city at a disadvantage. Following the logic of Florida's (2002) argument that members of the creative class drive economic growth, certain cities are attempting to attract educated, creative individuals by ensuring that the quality of life in their city is attractive. Barry Alberts, an economic development official in Louisville, Kentucky suggests, "Competing for firms is the old way, and competing for people is the new way" of economic development (2004). Just as the presence of amenities can help attract individuals, the absence of disamenities is also attractive. In this study crime rates were negatively correlated with growth in three of the regressions in the previous chapter which suggests a link between growth and crime. Focusing solely on developing more urban amenities does not guarantee economic growth, but as Doctoroff points out, a higher quality of life can certainly be the tiebreaker between cities competing for high tech workers and firms (2006, p. 17).

Economic development practice in American cities has increased its fervency in recent years due to political phenomenon such as federal retrenchment and economic phenomenon such as globalization and shifts toward the New Economy. The focus has been on attraction, retention, and development of businesses in the local economy. This study analyzed whether these economic development policies and programs actually impact the local economy. Consistent with previous empirical research, this study finds only modest evidence that economic development policy has positive impacts on economic growth.

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