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Economic Development Quarterly 2010 24: 325 originally published online 23 August 2010
DOI: 10.1177/0891242410376237

Economic Development Quarterly
24(4) 325–336

DOI: 10.1177/0891242410376237
http://edq.sagepub.com

Business Incentive Use Among U.S. Local Governments: A Story of Accountability and Policy Learning

Lingwen Zheng[1] and Mildred Warner[1]

Abstract

Use of business incentives is one of the most common local economic development strategies. The authors analyze national surveys of 700 to 1,000 local governments from 1994, 1999, and 2004 to track use of business incentives over time. They find a shift from primary reliance on business incentives to use of a broader set of strategies that includes business retention and small business support. The authors also find evidence of policy learning with increased attention to accountability among governments that use business incentives. The 2004 model results also suggest that governments that rely most heavily on incentives may face more intergovernmental competition, stagnating or declining economies, and lower tax bases. For such governments, business incentives may contribute to a cycle of destructive competition.

Keywords

economic development theory, economic development incentives/tools, state and local economic development policy

Economic developers and planners have long challenged the effectiveness of business incentives as an economic development tool for local government. However, firm-specific incentives have remained a popular and widely used economic development strategy. In fact, from the 1970s to the 1990s, use of business incentives became so common that local governments found themselves competing against each other for the same firms (Bowman, 1988; Burnier, 1992; Buss, 2001; Watson, 1995). Efforts to improve accountability have resulted in more scrutiny of business incentives and recognition of their limited effectiveness as a tool (Giloth, 1992; Hartzheim, 1997; LeRoy, 2005; Lynch, 2004; Reese & Fasenfest, 1999). In this article, we review national-level survey data to track how local government economic development practice changed from 1994 to 2004. We find a shift from primary reliance on business incentives to use of a broader set of strategies that includes attention to business retention and small business support. We also find that some local governments have moved away from firm-specific business incentives. We analyze the differences between governments that use incentives and those that do not. We give attention to political, economic, and managerial factors such as accountability, competition, participation, and external economic conditions and find that some incentive users may be trapped in a vicious cycle. Given the current financial crisis (beginning in 2008), local governments need to reflect on the experience of the past decade. Business incentive use is linked to use of accountability measures but care must be taken to ensure that incentives are effective in raising tax revenue and promoting economic development as well. As the current crisis results in more fiscal stress and limited tax resources, local governments must be careful to avoid destructive interlocal competition and instead focus on economic development policies that promote sustainable local development.

Literature Review: Accountability, Competition, and Economic Development Impacts

Creating job opportunities, increasing the local tax base, and diversifying the local economy have always been top priorities for local governments (Bartik, 1991, 2003; Blakely & Bradshaw, 2002; Lynch, 2004). However, debate about how to promote economic development and what tools to use has been ongoing. Eisinger (1988) separates economic development policies into

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supply-side strategies and demand-side inducements. Supply-side strategies, which target the private sector, are generally based on location theories—firms choose locations where they can minimize costs. Therefore, traditional supply-side economic development policies usually involve business incentives aimed at reducing costs for private firms, such as taxes and land (Blakely& Bradshaw, 2002; Bradshaw & Blakely, 1999; Eisinger, 1988; Koven & Lyons, 2006; Olberding, 2002). Demand-side economic development policies, on the other hand, primarily focus on how to expand market share and demand for products produced by local firms. Typical demand-side economic development strategies include establishing microenterprise programs or business incubators or improving local quality of life (Bradshaw & Blakely, 1999; Eisinger, 1988; Florida, 2002; Koven & Lyons, 2006; Warner & Liu, 2006).

So far, scholars have identified three waves of economic development strategies: business attraction, business retention, and broader community economic development strategies (Blakely & Bradshaw, 2002; Bradshaw & Blakely, 1999; Koven & Lyons, 2006; Olberding, 2002). Business attraction strategies, known as first-wave economic development strategies, are characterized by programs or activities designed to target and attract specific firms to relocate to or expand in local communities. Typical first-wave policies include business incentives such as subsidized loans, tax exemptions, or even direct payments to firms (Bradshaw & Blakely, 1999; Koven & Lyons, 2006; Olberding, 2002).

Economic development policy has evolved over the last decade to give more attention to business retention and expansion policies that recognize the distinctiveness of a region (Markusen & Schrock, 2006) and promote the "stickiness" of firms through investments in infrastructure and marketing support that promote the competitiveness of local business clusters (Christopherson & Clark, 2007; Porter, 2000). These strategies, also known as second-wave economic development strategies, broaden attention to existing firms in the local economy and the competitiveness of local economic clusters (Fosler, 1992; Lenzi, 1991). Second-wave economic development policies tend to offer more indirect industry-level assistance such as marketing, revolving loan funds, and technical innovation support that encourages firms to remain in a local region (Bradshaw & Blakely, 1999; Christopherson & Clark, 2007; Lenzi, 1991; Olberding, 2002). Second-wave economic development policy highlights entrepreneurship, industrial clusters, and public–private partnerships, encouraging agglomeration economies (Piore & Sabel, 1984; Porter, 2000; Sabel, 1992). However, both business attraction and business retention strategies place major focus on the private sector, with benefits being reaped primarily by private firms and high-skilled workers. Low-income and low-skilled workers are largely overlooked in such strategies (Blakely& Bradshaw, 2002; Koven & Lyons, 2006).

Third-wave economic development policy focuses more broadly on community-level economic development strategies and public investment to improve quality of life and social justice and empower local communities (Burnier, 1998; Shuman, 1998; Warner, 2001). Small business, microenterprise, and community economic development strategies attempt to focus economic development in neighborhoods with high poverty and lower economic development prospects (Bennett & Giloth, 2008; Clavel, Pitt, & Yin, 1997; Gunn & Gunn, 1991; Servon, 1997). These strategies have become more common over time (Bennett & Giloth, 2008; Florida, 2002; Koven & Lyons, 2006). Economic developers are also calling for more attention to local service sectors and their potential contributions to economic growth (Kay, Pratt, & Warner, 2007).

Lynch (2004) contends that "[t]oo often public officeholders first embrace lowering taxes and creating tax incentives as their chief economic development tools, with public investment usually ranking as a distant third option" (p. vii). Bartik (2003) estimates that the national total for business incentives is more than $17 billion per year, two-thirds of which is direct assistance such as tax incentives.

Business incentive development strategies have become so persuasive that local governments find themselves competing with each other and offering business incentives in self-defense, which essentially catalyzes an unhealthy "race to the bottom" in economic development policy (Bowman, 1988; Burnier, 1992; Buss, 2001; Koven & Lyons, 2006; Watson, 1995). From a political economy perspective, we have long recognized the "city as a growth machine" (Logan & Molotch, 1987; Molotch, 1976), where business and real estate elites partner with local government to promote economic growth for business and compete with other localities. This can lead to a process of destructive interlocal competition that can harm the local economy (Donahue, 1997).

In addition to noting the unhealthy competition generated by business incentives, studies have long questioned the efficiency and effectiveness of first-wave strategies. According to Lynch (2004), studies conducted in the 1950s to mid-1970s found no significant positive impact of tax incentives or negative impact of taxes. In a study of New York State's industrial development agencies, Lynch, Fishgold, and Blackwood (1996) concluded that firm-specific tax incentives are ineffective in expanding the local tax base and promoting economic development. A study of business tax incentives across Nebraska's 93 counties from 1987 to 1995 found that business incentives had a positive and statistically significant impact on promoting economic development for low-unemployment counties but no statistically significant impact on generating economic development for high-unemployment counties (Goss & Phillips, 1999). In a meta-analysis of 75 econometric studies conducted between 1979 and 1994, Bartik (1991, 1992, 1994) concluded that there is a significant negative impact of taxes on local economic growth, but that investment in infrastructure has a positive impact on local economic development. Despite the mixed effects of tax incentives on economic development,

local governments are expected to continue employing them because firms have become more footloose and business incentives more common (Bartik, 2005; Lynch, 2004).

As business incentives have proliferated, concern over accountability has risen as well (Giloth, 1992; Hartzheim, 1997; LeRoy, 2005). Many states and localities have responded with increased attention to accountability controls (LeRoy, 2005). Some local governments require publicly subsidized firms that fail to achieve agreed-on employment performance targets to pay back part of the money they received. These agreed-on conditions are usually called *clawback agreements*. In a study of such clawback agreements in major grant and loan incentive programs in the Midwest, Peters (1993) found that clawback provisions are widely used. Sullivan (2002) found that local governments that give more in subsidies tend to employ more subsidy controls. Based on an analysis of the use of tax abatements in Michigan, Sands, Reese, and Khan (2006) argued that placing conditions and program evaluation on tax abatements may promote more effective use of incentives at the local level.

Given these concerns regarding business incentives, local governments have begun to employ a broader set of economic development strategies over time. Reese and Fasenfest (1996) and Bradshaw and Blakely (1999) documented that local governments tend to employ policies from the three waves of economic development strategies simultaneously with a declining emphasis on business incentives and a subtly increasing focus on business retention and third-wave economic development strategies. However, over the years, many local governments have continued to use first-wave supply-side business incentives to promote economic development.

Why do local governments continue to use incentives when research questions their efficiency and accountability? Wolman (1988), Wolkoff (1992), and Fisher and Peters (1998) argue that business incentive decisions by local governments reflect economic, fiscal, and political costs and benefits. Local economic development policy is also a product of governments' policy-learning process (Eisinger, 1995; Mintzberg, 1973). Because economic development policy research is inconclusive, and political pressure to continue with incentives is high, some governments continue to focus primarily on business incentives (Bartik, 2003; Berkowitz, 1988; Lynch, 2004).

Local governments face complex choices and uncertainty with respect to their economic development policy efforts (Clarke & Gaile, 1992; Rubin, 1988). Local governments' choice of economic development programs can be a response to external economic conditions (Eisinger, 1995; Pagano & Bowman, 1992). For example, higher unemployment rates led to larger incentive packages in an analysis of business incentives across 8 states and 27 cities (Peters & Fisher, 1997). Reese (1991) found that municipalities with growing economies tend to offer a higher level of tax abatement to promote further growth. In addition, how open the local economic development process is to citizen participation can influence business incentive adoption (Wolman & Spitzley, 1996). Nonbusiness interest groups also play a role in overall economic development policy formation (Berkowitz, 1988). Whereas Sharp and Elkins (1991) found that more citizen participation was associated with wider adoption of cost-effective economic development policies, Cable, Feiock, and Kim (1993) failed to find significant correlation between greater openness and lower probability of business incentive adoption.

Our study uses national surveys from 1994 to 2004 to assess how local government economic development policy has shifted over time. We explore the differences between governments that still extensively engage in business incentives and those that do not. We study the political and economic factors that influence local governments' decisions to use business incentive strategies. We give special attention to the role of accountability and competition in determining the continued use of first-wave business incentive strategies. A theory of policy learning would suggest that local economic developers give attention to external economic conditions, citizen opposition and participation, and effectiveness in determining the level of business incentives they use (Bartik, 2003; Bradshaw & Blakely, 1999; Sullivan, 2002). Our model tests these assumptions.

Data and Method

This research is based on surveys of local government economic development practice conducted by the International City/County Management Association (ICMA) in 1994, 1999, and 2004. In each year, surveys were sent to chief municipal administrative officers in cities and counties to identify economic development trends[1] (Milligan, 2001; Prager, 1995). The sample size ranges from 700 to 1,000 cities and counties per survey. The sample is broadly representative by metro status and population size.[2] The survey has maintained consistency that allows comparisons over time. However, only 129 municipalities responded in all three survey years, so we conduct analysis on each individual survey year to preserve sample size.[3]

We use descriptive statistics to explore and analyze the general trend of economic development strategies for the 1994-2004 decade. This is followed by regression modeling of political, economic, and managerial factors that may help explain differences in use of business incentives across local governments.

Trends in Economic Development Policies

Several authors have argued that governments are inclined to employ three waves of economic development strategies simultaneously while downplaying the emphasis on incentives over time (Bradshaw & Blakely, 1999; Reese & Fasenfest, 1996). The ICMA surveys confirm this trend. According to our data analysis, although business incentives are widely used across local governments, there was a gradual shift toward second- and third-wave policies over the decade. The average number

Table 1. Shifts in Economic Development Policies Over Time: 1994, 1999, and 2004

Year	1994	1999	2004
Total respondents	960	1,042	726
First wave: Average number of business incentives used	4.64 (3.25)	4.34 (3.96)	3.31 (3.71)
Second wave: Average number of business retention strategies used	2.63 (2.21)	3.70(2.72)	3.64 (3.13)
Third wave: Average number of small business development strategies used	1.16 (1.39)	1.49 (1.71)	1.31 (1.84)
Percentage of governments *not* using business incentives	11.56	32.24	45.45
Total number of participants in local economic development process	4.46 (2.14)	4.65 (2.20)	4.76 (3.52)
Total number of encountered economic development barriers	2.51 (1.35)	2.95 (1.48)	3.51 (2.82)
Total number of accountability measures applied	3.37 (2.57)	3.82 (3.09)	2.78 (3.15)
Level of competition	2.54 (1.09)	2.49 (1.23)	2.12 (1.75)
Citizen opposition	0.33 (0.47)	0.30 (0.46)	0.17 (0.38)
Percentage of staff time spent on business attraction	26.12 (19.92)	26.26 (21.14)	44.16 (23.22)
Natural log of per capita real property tax revenue	2.39 (0.65)	2.39 (0.63)	2.48 (0.54)
Economic growth (1 = growth)	0.58 (0.70)	0.76 (0.53)	0.57 (0.61)

Note: Values in parentheses indicate standard deviations.
Data source: Authors' analysis of ICMA Economic Development Surveys for 1994, 1999, and 2004.

of business incentives used dropped from 4.64 in 1994 to 3.31 in 2004 (see Table 1), whereas the average number of business retention strategies (second wave) increased from 2.6 to 3.6, and the average number of small business development strategies (third wave[4]) increased from 1.1 to 1.3. In general, governments have broadened their strategies to include first-, second-, and third-wave approaches all together (correlations among use of first-, second-, and third-wave policies are positive). Although governments continue to rely on first-wave business incentives, in 2004, 45% of survey respondents indicated they did not use any incentives, up from 12% in 1994.

The ICMA surveys measure a broad array of business incentives—18 components in all. Whereas several of these focus on the zoning and permitting process and thus involve more staff time than money, others, such as tax abatements, tax increment financing, and infrastructure investments, involve significant amounts of expenditure or tax write downs. We find that zoning and permit assistance, infrastructure improvements, tax increment financing, and tax abatements are the most commonly used incentive tools (see Table 2). Although it would be useful to measure expenditures on business incentives, those data are not available in the ICMA surveys.

To understand how factors that may contribute to local government decisions to use incentives have changed over time, we analyze survey questions related to participants involved in the economic development process, barriers faced, intergovernmental competition, and use of accountability measures. Detail on the components of each of these variables is given in Table 2.

ICMA expanded the spectrum of participants in 2004 to capture the broader set of participants involved in community-level economic development policies and regional collaboration. Over the decade, the average number of economic development participants remained relatively stable (from 4.46 in 1994 to 4.76 in 2004; see Table 1) despite the broadening of the list of participants considered in the survey. Government and private sector interests dominate the process. City and county governments and chambers of commerce are the most commonly engaged participants in the economic development process. Use of citizen advisory boards has declined as has private business participation, but public–private partnerships have remained more or less stable.

The barrier most consistently identified by respondents in all years was the high cost or lack of developable land. Capital constraints were more heavily cited in 1994 than in 2004. Lack of skilled labor was highest in 1999 (the year when governments were more likely to report economic growth). Citizen opposition dropped by half over the decade. In 2004, ICMA added nine new types of economic development barriers to the survey. However, even with this increase, the average number of encountered economic development barriers increased by only one barrier—from 2.5 in 1994 to 3.5 in 2004 (see Table 1). Most of the economic development barriers listed focus on supply-side concerns and private sector interests. However, the inclusion of quality of life and high cost of housing in 2004 indicates an emerging concern with demand-side issues as well (see Table 2).

The average level of competition perceived by local governments dropped slightly over the decade (measured as 0-6, with 6 coded as the most forms of competition). Intergovernmental competition remains the most important source of competition local governments face—whether with local governments within or outside of the state or with other levels of government. Recognition of the destructive nature of intergovernmental competition has been a key concern of economic developers, as firms often encourage governments within the same region to bid against each other to offer the best incentive package. The decline in intergovernmental competition in

Table 2. Components of Key Variables (Percentage of governments reporting)

Year	1994	1999	2004
Business incentives			
Tax abatement	37.92	36.28	31.13
Tax credits	14.38	16.60	12.95
Locally designated enterprise zones	22.19	18.43	13.22
TIFs	33.85	33.59	31.82
Grants	28.13	30.71	20.80
Infrastructure improvements	56.67	50.19	36.50
Free land or land write downs	26.56	26.30	16.80
Subsidized buildings	7.81	7.20	4.96
Employee screening	14.17	10.65	8.13
Training support	31.98	24.38	15.98
Utility rate reduction	10.73	12.76	6.89
Zoning/permit assistance	64.38	48.66	37.33
Regulatory flexibility	21.77	15.64	6.75
Relocation assistance	10.31	12.00	9.50
Low-cost loans	30.31	26.97	18.32
One-stop permit issuance	31.46	26.49	22.59
Special assessment districts	15.00	12.38	12.95
Federal/state-designated enterprise zones	—	18.23	18.04
Economic development participants			
City	83.96	90.12	77.13
County	50.83	47.02	44.08
Chamber of commerce	73.75	74.47	57.99
Private business	53.13	53.45	37.05
Citizen advisory board/commission	53.75	48.56	31.82
Public/private partnership	30.00	39.73	31.82
Private economic development foundation	22.40	21.50	8.95
Utility	31.35	28.02	24.38
State government	31.46	29.46	29.20
Ad hoc citizen group	—	14.59	7.85
Federal government	—	—	8.68
Economic development corporation	—	—	39.12
Regional organization	—	—	32.92
Planning consortia	—	—	11.43
College/university	—	—	28.51
Economic development barriers			
Citizen opposition	32.60	30.42	16.94
Availability of land	44.38	54.80	44.63
Cost of land	39.06	39.64	41.05
Lack of skilled labor	20.63	44.91	13.36
Lack of capital	51.15	37.14	27.69
Declining market due to loss of population	8.96	4.99	3.86
Traffic congestion	20.83	26.01	18.18
Too many similar products/services	7.40	—	—
Limited number of major employers	—	26.20	24.79
Lack of political support	—	12.00	7.85
Lack of building availability	—	—	34.85
Inadequate infrastructure	—	—	21.49
High cost of labor	—	—	8.54
Taxes	—	—	13.91
Distance from major markets	—	—	11.98
Lengthy permit process	—	—	9.92
Environmental regulations	—	—	17.08
High cost of housing	—	—	15.84
Poor quality of life	—	—	3.99

(continued)

Table 2. (continued)

Year	1994	1999	2004
Competition			
Nearby local governments as competitors	71.77	77.26	57.02
Other local governments within the state as competitors	69.69	65.26	50.14
Local governments in surrounding states as competitors	48.33	43.57	41.32
Other states as competitors	50.94	45.30	41.05
Foreign countries as competitors	10.10	12.09	20.94
Others as competitors	3.02	2.50	1.93
Accountability measures			
Performance agreement	52.29	59.50	47.80
Cost/benefit analysis	47.92	51.44	39.94
Written eligibility criteria	34.06	43.47	—
Performance measures	23.13	69.29	24.52
Business incentive effectiveness measures	—	—	44.90
Number of jobs created by the new business	63.96	55.85	40.50
Amount of money invested in construction materials and labor	31.04	28.60	28.24
New dollars invested in land	18.33	17.18	21.63
Company revenue/sales	18.44	13.05	14.19
Cost/benefit analysis	25.00	24.57	20.39
Other	9.27	10.65	4.82
Number of new businesses relocating or expanding in jurisdiction	—	32.34	21.07
Total respondents	960	1,042	726

Data Source: Authors' analysis of ICMA Economic Development Survey data for 1994, 1999, and 2004.

2004 may reflect recognition of this problem and an increase in regional collaboration.

The ICMA surveys measure local government use of 11 accountability measures focused on effectiveness of business incentives. These measures were most heavily applied in 1999, when more local governments were facing growing economies. The most commonly applied performance measures were new jobs created and new construction expenditures, but measures also included land investment and number of new firms relocating to the region. We find that local governments recognize the accountability issues associated with business incentives but are most likely to use accountability measures when times are good. The average number of accountability measures used by local government was 3.4 in 1994, peaked at 3.8 in 1999, and dropped back to 2.8 in 2004 (see Table 1).

The ICMA surveys measure percentage of staff time spent on business attraction; this doubled in 2004 as compared with earlier years. This could be due in part to the recognition of other barriers to economic development—beyond tax cost—that require more staff time to address.

To assess economic climate, the ICMA survey asks if the local economy is declining (slow, moderate, or rapid), stable, or growing (slow, moderate, or rapid). Most governments reported growing economies (more than 55% in all three survey years). More governments faced a growing economy in 1999 than in 1994 or 2004.

These trends suggest a broadening of economic development over time to include first-, second-, and third-wave strategies. Policy learning is reflected in higher use of accountability measures in 1999 (the year when economic growth was highest). Competition falls slightly in 2004, as does citizen opposition, but time spent on attraction rises, as does the number of participants in the process and recognition of barriers. Local economic developers recognize the complexity of the economic development process and the need for more comprehensive approaches.

What Distinguishes Governments That Use Incentives?

Our second research question is focused on determining what factors differentiate governments that use incentives from those that do not. To test this, we look at political and economic factors that might explain differences in use of incentives. We provide tests of differences in means for incentive users versus nonusers and, finally, we run regression models to control for political, economic, and managerial factors.

Descriptive statistics for the model variables were given in Table 1. The total number of business incentives is the dependent variable. This is a count variable and values can range from 0 to 18. The independent variables in the regression models address the following conceptual categories.

Managerial and policy learning. Changes in use of business incentives over time could be related to managerial and policy learning. To test this, we use percent staff-time spent on business attraction, number of economic development participants,

Table 3. Comparison Between Business Incentive Users and Nonusers

Variables	Business Incentive User	1994		1999		2004	
		N	Mean	*N*	Mean	*N*	Mean
Total respondents		960	—	1,042	—	726	—
Number of business incentives	Missing	0	—	0	—	0	—
	Yes	849	5.25	706	6.41	365	6.08
	No	111	0	336	0	330	0
Percentage of staff time spent on business attraction	Missing	287	—	192	—	225	—
	Yes	648	26.17	612	29.17**	365	44.78
	No	25	24.96	238	18.79**	136	42.49
Number of economic development participants	Missing	0	—	0	—	0	—
	Yes	849	4.69**	706	4.98**	396	6.09**
	No	111	2.74**	336	3.97**	330	3.17**
Number of accountability measures applied	Missing	0	—	0	—	0	—
	Yes	849	3.78**	706	5.50**	396	5.00**
	No	111	0.23**	336	0.28**	330	0.13**
Log(per capita real property tax revenue)	Missing	394	—	423	—	444	—
	Yes	515	2.37	426	2.37	78	2.43*
	No	51	2.59	193	2.45	204	2.61*
Competition	Missing	0	—	0	—	0	—
	Yes	849	2.64**	706	2.71**	396	3.04**
	No	111	1.77**	336	2.02**	330	1.02**
Citizen opposition	Missing	0	—	0	—	0	—
	Yes	849	0.32	706	0.29	396	0.20*
	No	111	0.36	336	0.33	330	0.14*
Number of economic development barriers	Missing	0	—	0	—	0	—
	Yes	849	2.61**	706	3.00	396	4.48**
	No	111	1.71**	336	2.85	330	2.33**
Economic growth	Missing	0	—	0	—	0	—
	Yes	849	0.59	706	0.79*	396	0.69**
	No	111	0.50	336	0.71*	330	0.44**

Data source: Authors' analysis of ICMA Economic Development Surveys for 1994, 1999, and 2004.

and number of accountability measures applied. We hypothesize that managerial and policy learning will be reflected in less staff time spent on incentives, a higher number of participants involved, and more accountability measures applied among those who use business incentives. Staff time had a number of missing values. To preserve sample size in the regression analysis, we substituted the series mean for missing values.

Effectiveness of incentives. Measuring effectiveness of business incentives on economic development is difficult. The ICMA surveys include a question on per capita property tax revenue and we hypothesize that if business incentives are effective, places that use more incentives will have higher per capita property tax revenue. There was a very wide range in tax revenue across the responding governments. To bring the data into normal range, we calculated the natural log of per capita real property tax revenue; this was stable in 1994 and 1999 but increased in 2004. Property tax revenue had a number of missing values. To preserve sample size in the regression analysis, we substituted the series mean for missing values.

External environment and economic conditions. Business incentive use may be linked to levels of intergovernmental competition (measured by level, 0 to 6), citizen opposition (1 = *opposition*), number of economic development barriers, and economic growth (*stable or decline* = 0, *increase* = 1). We hypothesize that use of business incentives will be higher when local governments face more competition, less citizen opposition, more economic development barriers, and/or higher economic growth.

A key question for this analysis is what distinguishes those governments that use business incentives from those that do not. To explore these differences, we conduct mean comparisons of all the above variables for the two groups (see Table 3). Governments that use incentives do not spend significantly more time on business attraction, except in 1999. However, governments that use business incentives do involve significantly more participants in their local economic development processes than those who do not. They also apply many more accountability measures. This shows that these governments respect the importance of public engagement and accountability

Table 4. Zero-Inflated Negative Binomial (ZINB) Model Results[a]

	1994		1999		2004	
Parameter	Logit[b]	Level	Logit[b]	Level	Logit[b]	Level
Staff time spent on business attraction	0.07 (4.05)**	0.004 (4.77)**	0.008 (0.77)	0.001 (1.14)	–0.008 (–0.95)	0.001 (0.77)
Number of participants	–0.21 (–2.11)*	0.05 (5.55)**	0.09 (0.98)	0.05 (6.54)**	–0.01 (–0.21)	0.04 (5.28)**
Number of accountability measures	–3.03 (–4.59)**	0.10 (14.84)**	–2.16 (–12.37)**	0.07 (8.93)**	–2.02 (–8.00)**	0.05 (5.63)**
Log(per capita property tax revenue)	0.23 (0.73)	–0.05 (–1.52)	–0.17 (–0.45)	–0.05 (–1.48)	–0.09 (–0.20)	–0.12(–2.02)*
Competition	–0.31 (–1.71)	0.04 (2.66)**	0.12 (0.70)	0.02 (1.14)	–0.46 (–3.69)**	0.05 (2.73)**
Citizen opposition	0.58 (1.29)	–0.08 (–1.94)	–0.69 (–1.51)	–0.12 (–2.75)**	–0.40 (–0.85)	–0.03 (–0.51)
Number of economic development barriers perceived	–0.18 (–1.15)	0.02 (1.39)	0.22 (1.54)	0.02 (1.23)	0.05 (0.63)	–0.003 (–0.29)
Economic growth	0.03 (0.08)	–0.06 (–1.56)	–0.46 (1.02)	–0.11 (–2.45)*	–0.54 (–1.36)	–0.14 (2.72)**
χ^{2c}	384.44		162.83		96.44	
N	960		1,042		726	

Note: Values in parentheses indicate *z*-scores.
a. Dependent variable: Total number of business incentives.
b. The logit portion of a ZINB model predicts the likelihood of a zero response (not a 1 response as in a regular logit model).
c. ZINB models are significant in all model years.
*$p < .05$. **$p < .01$.

in the economic development process. Incentive users also perceive stronger external competition, face more economic development barriers, and perceive slightly higher economic growth on average. They face similar rates of citizen opposition, except in 2004, when citizen opposition is stronger among incentive users. There is no difference in per capita property tax revenue, except in 2004, when it is lower for incentive users. These results support our hypothesized directions and provide some evidence of policy learning over the decade. However, in 2004, higher rates of opposition and competition and lower rates of per capita real property tax revenue among incentive users suggest that this group may be caught in a destructive race to the bottom.

To more thoroughly understand the differences between incentive users and nonusers, we conduct regression models for each of the three model years: 1994, 1999, and 2004.[5] Because the dependent variable, the total number of business incentives, only takes nonnegative count values and has a large number of zero outcomes, a zero-inflated negative binomial (ZINB) regression model is employed.

The ZINB regression model is an advanced count regression procedure in which the dependent variable only takes nonnegative integer or count values. Basic count models include the Poisson regression model and the negative binomial regression model. The Poisson regression assumes the data are equally dispersed, which means it requires the conditioned variance to equal the conditioned mean. However, real-life data are often characterized by overdispersion. The negative binomial regression is a generalization of the Poisson regression model, allowing data overdispersion. Real-life data also frequently display excess zeros. The ZINB regression model provides a procedure that takes into account the excess zeros in addition to allowing for data overdispersion (Erdman, Jackson, & Sinko, 2008).

The ZINB regression generates two separate models and then combines them. First, a logit model is generated that predicts the likelihood a certain case would be in the zero group. Then a negative binomial model is generated that predicts the counts for those cases whose dependent variables have nonzero outcomes (Erdman et al., 2008; Long, 1997). We are interested in both groups: what distinguishes incentive users from nonusers, and which factors help explain higher use of incentives among incentive users. Results are displayed in Table 4. Note that the interpretation of the coefficient in the logit portion of the model is for the zero answers (nonusers), the opposite of a standard logit interpretation.

Which Governments Use Business Incentives?

Recall that the number of governments *not* using business incentives grew from 12% in 1994 to 45% in 2004. Our logit model output distinguishes business incentive users from nonusers. Across all three models, accountability is the primary factor that distinguishes incentive users from nonusers. Governments that apply more accountability measures are less likely to be in the nonuser group. This result has the largest effect and highest significance of any variable in the logit models. This shows that during the 1994-2004 decade the lessons about the importance of accountability when using business incentives were widely applied. This is good news for economic developers and citizens alike, as it shows that local economic

development practice has become sensitive to accountability concerns.

We see additional evidence of a policy-learning process over the decade, as time spent on business incentives is statistically significant only in the 1994 model. Those who spent more time on incentives were more likely *not* to use them, suggesting that the nonusers might be places that did not have much experience using incentives and thus spent time without having success (recall that there were more rural municipalities in the 1994 sample). This effect disappears in the later models (1999 and 2004), suggesting no difference in time spent between those governments that use incentives and those that do not.

Similarly, the total number of participants in the economic development process is only significant in 1994, and the more participants involved in the local economic development process, the more likely governments did not use business incentives in that year. This effect disappears in the 1999 and 2004 models even though number of participants involved (for both types of governments) increased. In the 2004 logit portion of the model, we see that those municipalities that face more competition are more likely to use incentives. Altogether, the models show a learning process over time—a close relationship between accountability and use of business incentives and less competitive pressure among nonusers.

Factors Affecting the Number of Incentives Used

The model results for level of incentives also suggest a policy-learning process. As in the logit portion of the model, the most consistent effect is the number of accountability measures applied, but economic growth, competition, and participation are also important in distinguishing the level of incentives used. Municipalities that use more accountability measures use more business incentives. These results show that the importance of accountability is recognized and practiced by heavier users of incentives. Percentage of staff time spent on business attraction is only significant in 1994, when governments were still learning how to do incentives. In later years, percentage time is not related to level of incentives used. Over the years, the more economic development participants involved in the local economic development process, the more business incentives are used. This suggests that economic development participants in these communities primarily favor such strategies. Citizen opposition is only significant in reducing the level of business incentives in 1999, the year when more governments faced growing economies. Governments appear to be more likely to take citizen opposition into consideration when the economy is growing. In contrast, during the slower growth years (1994 and 2004), citizen voice has no significant effect on the level of business incentives used. In those same years, 1994 and 2004, we see that competition leads to higher use of incentives—a response to tougher economic times.

But how well do business incentive strategies work to address economic decline? Although these models cannot directly measure effectiveness in jobs created or revenue generated (because ICMA surveys did not ask these questions), we can distinguish level of incentive use by economic growth and tax revenue per capita. What we see is that governments that enjoy higher economic growth in 1999 and 2004 use fewer incentives. Property tax revenue per capita is only significant in 2004, showing that governments with higher tax revenue use fewer incentives. Prior research in the 1990s showed that business incentives and industrial attraction had little to no impact on the local tax base (Bartik, 1991, 1994; Lynch, 2004). Our 1994 and 1999 models show similar results. However, the 2004 model results suggest that heavier reliance on business incentives may lead to a race to the bottom, as higher use of business incentives is found among governments with more competition, lower tax bases, and lower economic growth. These are complex relationships and some governments may be caught in a vicious cycle where a lower tax base may lead to more incentive use or, conversely, where higher incentive use leads to a lower tax base (contrary to theoretical expectations).[6] Competition appears to be a bigger issue for local governments during periods of slower economic growth (in 1994 and 2004 more governments reported economic decline); these are the only years when competition has a significant and positive effect on incentive level. Although business incentives are justified in part as a response to economic barriers a firm might face, none of the model results show a significant effect of economic barriers on local governments' use of business incentives. This is probably because other second- and third-wave strategies may be as effective in addressing economic barriers as business incentives.

These results could be the result of sample differences across the years. To test for this, we ran an ordinary least squares model on the 129 places that responded in each of the three survey years (see Table 5). We find support for the conclusions regarding policy learning. Higher use of accountability measures and more involvement of participants are found among municipalities that use more incentives. However, the effects of competition, tax revenue, and economic growth found in the 2004 full sample model do not hold in the 129 sample model for 2004. So the results of a vicious cycle of destructive competition should be interpreted with caution as they may be just a sample effect. However, even if they are just a sample effect, the fact that they appear among several hundred local governments in the full 2004 model remains a source of concern.

Conclusion

In this article, we have analyzed a unique data set that allows us to look at economic development strategies broadly among local governments across the United States. What we have found is a broadening of strategies to include business incentives as

Table 5. Ordinary Least Squares Model Results on 129 Common Cases Across All Model Years[a]

Parameter	1994	1999	2004
Staff time spent on business attraction	0.024 (1.862)	–0.016 (–1.127)	0.003 (0.249)
Number of participants	0.196 (1.688)	0.483 (3.618)**	0.391 (4.809)**
Number of accountability measures	0.453 (4.067)**	0.691 (7.579)**	0.496 (5.723)**
Log(per capita property tax revenue)	–1.04 (–2.101)*	–0.815 (–1.447)	–0.635 (–0.941)
Competition	0.081 (0.337)	0.009 (0.041)	0.313 (1.870)
Citizen opposition	–0.568 (–1.016)	–0.327 (–0.526)	–1.935 (–2.687)**
Number of economic barriers perceived	0.134 (0.579)	–0.455 (–2.355)*	0.095 (0.861)
Economic growth	–0.047 (–0.086)	–0.534 (–0.621)	–0.759 (–1.487)
R^2	0.288	0.441	0.605
N	129	129	129

Note: Values in parentheses indicate *t*-scores.
a. Dependent variable: Total number of business incentives.
*$p < .05$. **$p < .01$.

well as business retention and small business development. Local economic development policy appears to involve first-, second-, and third-wave policies simultaneously.

Although a large proportion of local governments still use business incentives, accountability and participation are also higher within this group. This suggests a process of policy learning regarding how to effectively use business incentives. However, we have also found a large set of local governments that do not use business incentives. Compared with incentive users, nonusers face fewer economic development barriers and lower competition but also lower economic growth. We use regression modeling to distinguish between these groups and find a learning curve over the decade. The nonusers spent more time and involved fewer participants in 1994 (suggesting this was a laggard group then), but by 2004 the only difference they show from the incentive users is that they faced less competition and applied fewer accountability measures because they used no incentives. Heavier incentive users involve more participants and use more accountability measures. This suggests a policy-learning process.

We also found some evidence that heavier incentive users face more competition, slower economic growth, and lower property tax revenue. The positive effect of competition on business incentive use only shows up in years with lower economic growth (1994 and 2004). This raises the possibility that those fighting hardest to address economic development concerns with traditional first-wave tools may be trapped in a destructive competitive cycle. They have demonstrated policy learning regarding accountability. Now they need help identifying strategies that can address their more challenging economic circumstances. Future economic development policy attention should be given to identifying additional policy alternatives for these places.

In the more recent model years, 1999 and 2004, we found that economic growth is negatively associated with level of business incentive use. These results challenge the effectiveness of business incentives and raise concerns that in times of economic crisis, competitive pressure to use business incentives may trap local governments in a race to the bottom. In the current economic crisis, there is an increased emphasis on government stimulus of private enterprise, especially at the federal level. Local governments have less fiscal capacity to offer financial incentives but may feel compelled to try. How they use stimulus dollars (to retain existing firms and critical local services; see, e.g., Warner, 2009) may have important impacts on long-term economic development prospects. The last decade of local government economic development experience shows strong attention to accountability measures—a policy learning that needs to be retained during the current financial crisis.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the authorship and/or publication of this article.

Funding

Financial support for this research was provided in part by the W. K. Kellogg Foundation.

Notes

1. In 1994, ICMA surveyed all municipalities with a population of 2,500 or more. In 1999 and 2004, only municipalities with a population of 10,000 or more were surveyed. To ensure comparability among the three datasets, we only analyze municipalities with a population of 10,000 or more for our research. In 1994, 5,159 municipalities with a population more than 10,000 were surveyed and 960 responded for a response rate of 18.6%. In 1999, 3,308 local municipalities were surveyed and 1,042 municipalities responded for a response rate of 31.5%. In 2004, 3,703 local governments were surveyed and 726 municipalities responded for a response rate of 19.6%.
2. Distribution by population size is the same in all three model years. Distribution by metro status shows a dominance of suburbs in all years (49% in 1994 and 57% in 1999 and 2004). In 1994, more rural places responded than in the other years (33% in 1994,

21% in 1999, and 17% in 2004) and more counties responded (29% in 1994 and 12% in 1999 and 2004).

3. We also conduct a supplemental analysis on just the 129 consistent survey respondents for comparison.
4. The questions on community-based economic development strategies do not allow consistent comparison over the three survey years. However, there are consistent questions on small business development strategies and we use these as a proxy for community-based economic development policy.
5. We also ran an ordinary least squares model on the 129 observations. Its results were similar to the level portion of the ZINB with regard to the primary findings on accountability and number of participants (see Table 5). However, it did not confirm a competition effect or a tax revenue or economic growth effect. Thus, these results from the full model should be interpreted with caution. The race to the bottom found in the 2004 year of the full model could be a sample effect of the 2004 data. It was not possible to run the model as a panel because only 129 cases were the same across all three model years. There is no software that can run a multilevel model as a ZINB.
6. We thank an anonymous reviewer for this insight regarding a possible vicious cycle of causality between higher incentive use and weaker economic conditions.

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