1996

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RESEARCH PAPER 9623

September 1996

Paper presented for the 27th Annual Conference of the
British/Irish Section of the Regional Science Association International,
Edinburgh, Scotland, September 23-25, 1996

Acknowledgments: The authors are Graduate Research Assistant and Ph.D. Candidate, Resource Economics, West Virginia University and Associate Professor, Division of Community and Economic Development, West Virginia University Extension Service. West Virginia University's Regional Research Institute partially funded this research. The authors thank Alan Collins, Virgil Norton, George Morse, and Cassandra DeYoung for comments on an earlier version of this paper. Send comments to Scott Loveridge, P.O. Box 6031, West Virginia University, Morgantown, WV 26506-6031, USA.

ABSTRACT. Several arguments in the local economic development policy literature criticize practitioners for their continuing reliance on industrial recruitment, sometimes referred to as smokestack chasing. Why might practitioners rationally prefer this method over other available techniques? One theory is that practitioners face pressure to accomplish something within a short time frame, resulting in a high discount rate for economic development projects. A survey of local economic development practitioners using the contingent valuation technique supports the theory, finding that developers' discount rate is roughly 20%. The survey tests other theories as well.

INTRODUCTION

Researchers working in the area of local economic development are frequent (and sometimes vociferous) critics of practitioners' propensity to employ industrial recruitment as a policy lever. This paper moves beyond criticizing the practice, and explores potential reasons for practitioners' reliance on related policies. We start with a brief review of trends in industrial recruitment and the academic arguments against the practice. Working from the basic premise that practitioners are rational economic actors, we provide hypotheses as to why industrial recruitment continues to be used in spite of criticism. We then test some of these hypotheses with a survey of local economic development officials in Ohio. A final section of the paper summarizes conclusions and implications for future research.

POLICY CONTEXT AND LITERATURE REVIEW

Industrial recruitment has been used with mixed results. For example, the State of Pennsylvania gave Volkswagen $71 million in incentives in 1978 for the promise of 20,000 jobs (Mahtesian, 1994). For ten years Volkswagen seemed to be having a positive impact on the economy. Then the plant closed. An Anchor Hocking glass plant in West Virginia gave a short term boost to the economy until it went bankrupt during the 1980s and forced the state to sue, recovering only some state and local incentives (Mahtesian, 1994). Pooling reported data on some of the higher profile incentive packages in recent years shows that particularly in the Appalachian regions industrial recruitment has become more expensive per direct job created (Table 1).

Why have costs risen? The shift of the United States economy from manufacturing to services has created stress in state and local governments. Governors, mayors, chambers of commerce, county commissioners, and developers are struggling to replace manufacturing jobs lost to automation, obsolescence, and trade. As more and more regions feel the stresses associated with the changing economy, more resort to offering incentives, bidding up the "price" of a successful recruitment effort.

The current preponderance of thought suggests that incentives are only short run fixes (Waits and Heffernon, 1994). The evolving new competitive environment is characterized by greater global competition, an accelerated shift from primary and secondary industries to services, new production organizations and technologies, and industrial restructuring (Barkley, 1995). Communities in close proximity to urban areas are most likely to be attractive to footloose firms because these communities can offer lower land, labor, or other costs while providing firms access to agglomeration economies located in the urban center (Markley and McNamara, 1995).

Table 1: Recent Incentive Packages
Selected USA States, 1980-1996

State	Company	Incentives (per job)	Year
Tennessee	Nissan	$11,000 [1]	1980
Tennessee	Nissan	$26,000 [1]	1985
Illinois	Sears	$40,000 [2]	1986
Kentucky	Toyota	$50,000 [2]	1988
South Carolina	BMW	$71,000 [1]	1992
Alabama	Mercedes	$160,000 [3]	1993
Kentucky	Dofasco/Co-Steel	$350,000 [2]	1994
West Virginia	Parsons & Whittemore	$1,000,000 [4]	1996

[1] From Graham S. Toft's " Industrial development in the new economy" presented at the May 21-22, 1996, National Conference National Academy of Sciences in Washington, DC. [2]From "Tax giveaways to entice business backfire on states" printed in *USA Today*, October 10, 1995. [3]From Chris Farrel, "The economic war among the states" presented at the May 21-22, 1996, National Conference National Academy of Sciences in Washington, DC.[4]From Martha B. Hodel, "Pulp mill permit process near end" printed in the March 8, 1996, *Cumberland-Times News* (page 2-B).

Regional economists haveexamined industrial recruitment and the variety of effects it can have on a local economy. This research has highlighted the negative aspects of industrial recruitment. Loveridge (1996) summarizes the arguments in the following manner:

- **Zero-Sum Game:** No jobs are created by moving an industry from one location to another. Individual communities may gain or lose but national income and the employment rate remain the same.

- **Long Odds:** The number of communities pursuing industrial recruitment has increased over the last few years. However, the number of firms available within the United States has remained fairly constant. Some have cited 200 to 300 "significant" new firms per year courted by 15,000 local economic development agencies (Phillips et al., 1993).

- **Giving Away The Store:** Businesses understand that communities are willing to pay to attract them and they can easily play one community against another for the best deal. In the process, communities overbid.

- **Pyrrhic Victory**: Incentives used to recruit a new business drain the local economy and usually mean that the changing tax base does not cover the full cost of new service needs. These costs are passed on to existing businesses and residents with increased taxes and fees and reduced services.

- **The Hollow Economy:** Because the imported firm has a high propensity to rely on imported inputs and sell its semi-finished products outside the economy for final processing, importing a firm from somewhere else does not have the same impacts on the economy as a firm that develops locally (Maki, 1994). The recruited firm, therefore, has a more significant linkage to the exterior economy than the local economy.

- **The Profit Cycle:** Firms that relocate are usually seeking lower wages and generally compete in producing a standardized product that requires little skill (Markusen, 1985). Recruiting these low skill, low wage jobs to the local economy does little to improve the overall workforce through on-the-job training. The tax base also produces little chance of financing development of physical infrastructure and next-generation human capital.

Despite the research highlighting the negative aspects of recruitment, local developers continue to seek firms through recruitment. Recruiters believe that incentives create a business-friendly, entrepreneurial climate; promote local job opportunities and worker training; enhance private sector productivity and competitiveness (Farrel, 1996). Strategies that focus on the existing economy are given only secondary attention despite research showing that up to 80% of new jobs are created by existing firms (Kraybill, 1995). What drives economic developers' preference for recruiting? Loveridge (1996) offers several potential reasons. We reiterate a few of them here.

- **Tradition:** Local economic development started with industrial recruitment; many people who are in economic development positions today were trained by individuals who concentrated on industrial recruitment. New innovations require longer payoff periods, leaving those trying these innovations waiting to receive any payoffs. Therefore, the null hypothesis states that a reason economic developers prefer industrial recruitment is because it has continued to be the mainstay for a long period of time.

- **Expected Value:** The null hypothesis states that recruitment has long odds but high perceived payoffs, so expected value may be about the same as other strategies with better odds of success but lower payoffs. Once commitment to recruitment is made, it may be politically difficult to step back from this strategy.

- **Political Payoff:** The null hypothesis states that small entrepreneurship programs claiming slow growth and job creation have little support in comparison to the public's response when a community recruits a large numbers of jobs, even if very rarely. For example, consider an analogy with lottery tickets. As long as the price of the ticket is low

relative to their budget, people will buy lottery tickets even though they know they will probably lose money. This is also consistent with the maxim of behavior modification theory that says intermittent positive reinforcement is more of a motivator than consistent reward (Skinner, 1969).

- **Everyone Can Aspire To Recruit:** The null hypothesis states that no matter what problems a community has associated with it, every community perceives it has a chance of successfully attracting a large firm. Simply put, few other strategies can make this claim.

- **Weak Communities:** The null hypothesis states that communities may use industrial recruitment simply as a default because certain aspects of a community may hinder its development under other methods. First, it may be easier to give subsidies to a newcomer than to someone already in the community because giving to an existing business increases the possibility of nepotism or favoritism accusations. Second, alternate development strategies may require more community collaboration and coordination than industrial recruitment. Third, alternative strategies may also require more sustained effort over the long haul than industrial recruitment.

- **Diversification:** The null hypothesis states that communities pursuing non-traditional economic development strategies may see industrial recruitment as a way of diversifying their economic development dollar. Industrial recruitment may also be a vehicle to not only complement but to accomplish non-traditional economic goals in a community.

- **High Discount Rate:** Local economic development strategies that do not involve industrial recruitment programs are often perceived to have longer payoff periods than recruitment-related strategies. The null hypothesis states that economic leaders prefer quick turnaround activities even though they are high risk. When successful, community leaders witness a rapid turnover in local institutions supporting economic development.

These hypotheses demonstrate that there may be valid reasons for communities and economic developers to hold onto industrial recruitment as a way to aid local economic growth. In the remainder of this paper we report on a survey used to test the above hypotheses. A seven page survey was mailed to selected[1] members of the Ohio Economic Development Association in April of 1996. A second mailing was sent in June of 1996. Eighty-one participants of the original 185 sample returned a survey with usable results for a return rate of 44%. A copy of the survey is available from the authors on request. The sample included commissioners, mayors, and members of development councils, community development boards, development foundations, and chambers of commerce.

[1]Members affiliated with educational institutions were dropped from the list as they are not likely to be involved in deal making.

RESULTS[2]

Respondent Characteristics. Fifty-eight males and 23 females returned usable responses. The sample population included representatives from eight of ten categories from the rural-urban continuum code. Forty-seven counties were considered metro counties and 34 nonmetro counties, and counties considered completely were rural not represented (Table 2). Attitudes were not to be significantly tied to rural-urban continuum codes in this study.

Table 2: Rural-Urban County Representation[3]
Ohio Sample, 1996

Rural-Urban Code	Definition	Returned Frequency	Sampled Frequency
0	Central counties of metro areas of 1 million population or more	12% (N=10)	14% (N=26)
1	Fringe counties of metro areas of 1 million population or more	14% (N=11)	12% (N=22)
2	Counties in metro areas of 250,000 to 1 million population	28% (N=23)	33% (N=61)
3	Counties in metro areas of fewer than 250,000 population	4% (N=3)	5% (N=9)
4	Urban population of 20,000 or more, adjacent to a metro area	16% (N=13)	13% (N=24)
5	Urban population of 20,000 or more, not adjacent to a metro area	2% (N=2)	5% (N=9)
6	Urban population of 2,500 to 19,999, adjacent to a metro area	15% (N=12)	13% (N=24)
7	Urban population of 2,500 to 19,999, not adjacent to a metro area	9% (N=7)	8% (N=15)
8	Completely rural or fewer than 2,500 urban population, adjacent to a metro area	(N=0)	(N=0)
9	Completely rural or fewer than 2,500 urban population, not adjacent to a metro area	(N=0)	(N=0)
		(N=81)	(N=185)

[3]For more information on rural-urban continuum codes see Butler, 1990.

The research asked developers if they would be willing to pay and how much they would be willing to pay for 10 jobs today, 11 jobs in one year, 14 jobs in three years, and 16 jobs in five years. By looking at developer response over the five year period, a pattern for developer discount rates can be determined. Are developers more or less willing to give up incentives over time as the amount of jobs increase but the discount rate stays the same? Correlations between the codes and whether developers were willing to pay for 10 jobs today, 11 jobs in one year, 14

[2]Data were keyed into an Access (1995) database, coded with an Excel (1995) spreadsheet, and analyzed using SPSS (1994).

jobs in three years, and 16 jobs in five years hit *p*-values of 0.308, 0.334, 0.784, and 0.226, respectively. This was an important outcome, showing that the results of this incentive research using contingent valuation techniques can be comparable for various types of areas.

The "Tradition," "Expected Value," and "Political Payoff" Theories. To test these theories, respondents were asked to rank in terms of importance and likelihood of success various development techniques (Table 3). Analysis revealed that economic developers reported their best chances of success[3] lie with investing in existing businesses. They also ranked existing business as being the most important to their service area (Table 3). In addition, chi-squares showed that each development technique was sufficiently independent in the minds of respondents with differences between observed frequencies and expected frequencies significant at $\propto$=0.05.

Note that average ranks of *the importance* and *odds of success* for each technique are consistent. If a technique is ranked as important, the ranking on odds of success also tends to be high. While the overall results in Table 3 show consistency between rank of importance and rank of odds of success on most techniques, tests of correlations between individual responses did not show evidence of strong association. Those crosstabs showing a significant correlation are: odds of success for tourist destination investment and ranking of importance for worker training investment training rank (rho=-0.24, Sig 0.03), odds of success for business startup investment and ranking of importance for industrial recruitment (rho=+0.24, Sig=0.03), odds of success for retirement destination investment and ranking of importance of existing business investment (rho=-0.26, Sig 0.02), and odds of success for retirement destination investment and ranking of importance for worker training investment (rho=-0.22, Sig=0.05).

The results provide some indication that the "Tradition" hypothesis listed above can be rejected. Respondents had the opportunity to list "Don't Know" as a response to odds of success in creating jobs with each of the strategies. With only 14% (N=11) marking this choice, the "Investment in Communication Networks" category received the most "Don't Know" responses, indicating that most developers had at least enough knowledge of these techniques to put their responses of odds on the probability of succeeding when using the various methods.

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[3] Respondents were given a scenario of creating 14 jobs within 3 years using that technique only. Then they were asked to choose from the following categories of "odd of success": no chance; 1 in 1000; 1 in 100; 1 in 10; 1 in 1; or unknown. Recruitment was treated differently than the other methods, with a detailed listing of 2-digit industries (United States, 1987). To compare odds of success in recruitment with other techniques, the industry-level recruitment odds were coded and averaged, using the highest odds of success given by each respondent. Each development technique was then coded back to odds of success from the average. Standard deviations ranged from 0.952 to 1.402 with standard errors ranging from 0.082 to 0.156.

Table 3: Success Versus Importance

Development Technique	Odds of Success Rank	Rank of Importance
Existing business investment	1	1
Industrial Recruitment	2	2
Worker training investment	3	4
Infrastructure investment	4	3
Communication network investment	5	5
Business startup investment	6	6
Tourist destination investment	7	7
Retirement destination investment	8	8

As a test of how developers tie a variety of techniques to success, developers were asked to state what combination of two development techniques (excluding recruitment) would give them the best chance of success. Thirty-two percent (N=26) chose helping existing businesses expand in combination with developing service area infrastructure, followed by 23% (N=19) selecting the investment of funds in worker training and helping existing businesses expand, and 16% (N=12) choosing to help business startups and help existing businesses expand. Six percent (N=5) did not respond with what two techniques they favored as a combination. Developers were overwhelmingly concerned with helping existing businesses expand, with 79% (N=64) choosing the technique as one of a combination of two techniques that would give them the best odds of success in their service area (Table 4).

Since there was no significant correlation between the odds of success developers associated with a development technique and whether an area was classified more or less urban (Table 5), perceptions of development techniques do not appear to vary with the population density of urban areas.

Table 4: Combinations of Two Techniques Developers Favored

Development Technique	Business startups	Existing business	Tourist destination	Retirement destination	Infrastructure	Worker training	Comm. networks
Business startups		15% (N=12)	0% (N=0)	0% (N=0)	1% (N=1)	0% (N=0)	1% (N=1)
Existing business	15% (N=12)		5% (N=4)	0% (N=0)	32% (N=26)	23% (N=19)	4% (N=3)
Tourist destination	0% (N=0)	5% (N=4)		0% (N=0)	0% (N=0)	0% (N=0)	0% (N=0)
Retirement destination	0% (N=0)	0% (N=0)	0% (N=0)		0% (N=0)	0% (N=0)	0% (N=0)
Infrastructure	1% (N=1)	32% (N=26)	0% (N=0)	0% (N=0)		10% (N=8)	0% (N=0)
Worker training	0% (N=0)	23% (N=19)	0% (N=0)	0% (N=0)	10% (N=8)		1% (N=1)
Comm. networks	1% (N=1)	4% (N=3)	0% (N=0)	0% (N=0)	0% (N=0)	1% (N=1)	
TOTALS	17% (N=14)	79% (N=64)	5% (N=4)	0% (N=0)	43% (N=35)	36% (N=29)	6% (N=5)

Table 5: Urban Ranking and Development Technique[4]

Development Technique	Spearman's rho	Significance
Existing business investment	+0.0559	0.620
Worker training investment	-0.0295	0.794
Infrastructure investment	+0.1226	0.276
Communication network investment	-0.1586	0.157
Business startup investment	+0.0852	0.450
Tourist destination investment	-0.0622	0.581
Recruiting new businesses	+0.0543	0.409
Retirement destination investment	-0.0949	0.399

[4]Spearman rho gives correlation between odds of success for particular development technique by those from rural areas and those from urban areas. For example, a significant negative (positive) correlation would show that as the chance of success decreased for a particular development technique, the area the service area was more likely to be urban (rural).

Overall, it would appear that the evidence provides support for either the "Expected Value" or the "Political Payoff" hypothesis. Developers appear to be aware that the odds of success are better in working with existing business than in recruiting, but focus on high perceived payoffs of recruitment.

The "Everyone Can Aspire to Recruit" Theory. Developers had clear opinions on which industries they would be most likely to be able to recruit. Developers were most optimistic, ranking[5] industries in the top 3 with "1 in 10" odds of success, when considering retail trade, services, and fabricated metal products (Table 6). However, developers considered the odds of success related to the manufacturing industry markedly lower, with apparel, petroleum, textile mill, and tobacco industries receiving only "1 in 1000" odds. Not one respondent answered "No Chance" to all categories in estimating odds of success in recruitment, lending support to the hypothesis that everyone believes recruitment has at least some chance of working. Also, developers considered adding jobs to their community through recruitment at an overall average "1 in 100" odds over a three year period.

The "Weak Communities" Theory. Are developers willing to give a subsidy to get a business into their service areas? Are developers more likely to reward an existing business or a recruited business or do they have a preference? Sixty-four percent (N=52) of survey participants indicated they would receive complaints if they gave a new firm a subsidy, while only 47% (N=38) stated they would receive complaints if a significant subsidy was given to an existing firm in the community. A *t*-test to compare means demonstrated that a significant difference (t=-2.78) existed between the two responses. Therefore, it seems developers felt they would be **more** likely to receive complaints if they gave a subsidy to a new firm rather than an existing business. This response appears to refute the part of the "weak communities" hypothesis (discussed above) that relates to developers facing more complaints if they give breaks to existing businesses. However it may be that complaints about breaks for existing business are not offset by political support and public acclaim as they would be in the case of the recruited business.

A correlation coefficient (r=0.68 with p=0.0005) also showed that if a developer was likely to receive negative responses from giving one type of subsidy they were also likely to receive complaints when giving another type of subsidy. Table 7 reports types of negative responses and correlations between giving a subsidy to a new versus an existing firm.

[5]When ranking business types, odds of success were coded and their means taken. Then, means were rounded to the closest whole number and coded back to an associated odd. If calculated means were tied, the one with the lower standard deviation was ranked higher.

Table 6: Odds of Recruiting Businesses

Type of Business to Recruit	Rank	Associated Odds
Retail trade	1	1 in 10
Services	2	1 in 10
Fabricated metal products, except machinery and transportation	3	1 in 100
Rubber and miscellaneous plastics products	4	1 in 100
Wholesale trade	5	1 in 100
Transportation	8	1 in 100
Electronic and other electrical equipment, except computer equipment	6	1 in 100
Food and kindred products	7	1 in 100
Industrial and commercial machinery; computer equipment	9	1 in 100
Printing, publishing, and allied industries	10	1 in 100
Communications	11	1 in 100
Primary metal industries	12	1 in 100
Sanitary services	13	1 in 100
Measuring and controlling instruments	14	1 in 100
Transportation equipment	15	1 in 100
Paper and allied products	16	1 in 100
Chemicals and allied products	17	1 in 100
Lumber and wood products, except furniture	18	1 in 100
Furniture and fixtures	19	1 in 100
State and federal facilities	20	1 in 100
Apparel and finished products made from fabric	21	1 in 1000
Petroleum refining and related industries	22	1 in 1000
Textile mill products	23	1 in 1000
Tobacco products	24	1 in 1000

Table 7: Correlation Values of Negative Responses to Subsidies[6]

		Subsidy to Existing Firm					
		Phone calls to developer	Letters to editors of local papers	Personal visits	Radio commentary	TV news	Funding loss
Subsidy to New Firm	Phone calls to developer	+0.62	+0.51	+0.62	+0.55	+0.55	+0.59
	Letters to editors of local papers	+0.43	+0.47	+0.41	+0.42	+0.42	+0.41
	Personal visits	+0.51	+0.46	+0.58	+0.49	+0.51	+0.52
	Radio commentary	+0.46	+0.44	+0.48	+0.56	+0.52	+0.46
	TV news	+0.51	+0.46	+0.53	+0.54	+0.57	+0.52
	Funding loss	+0.56	+0.48	+0.58	+0.49	+0.52	+0.58

The respondents were survey asked what methods of complaints do they respond to from their constituents when making business decisions. Do developers respond to complaints such as letters to the editor, radio commentary, and other media? Of those who believed they would receive negative responses, the complaints developers felt they would receive **and** respond to most were phone calls (Table 8). Developers were asked what other types of complaints they would receive. Developers consistently chose school boards, local and area officials, and other existing businesses as groups who would complain. Also, the use of incentive packages was not correlated with whether developers felt they would receive complaints by giving subsidies for new firms to move to their service areas. *P*-values of 0.297, 0.225, 0.114, and 0.241 ruled out any significant correlation.

[6]All indicated correlations are Pearson *r* values with *p*-values of 0.0005 and have been rounded to the nearest hundredth.

Table 8: Negative Responses

Negative Responses			
	Subsidy to new firm (N=52)	Subsidy to existing firm (N=39)	Rank
Phone calls to developer	83% (N=43)	87% (N=34)	1
Letters to editors of local papers	63% (N=33)	59% (N=23)	2
Personal visits	63% (N=33)	41% (N=16)	3
Radio commentary	33% (N=17)	36% (N=14)	4
TV news	27% (N=14)	28% (N=11)	5
Funding loss	17% (N=9)	13% (N=5)	6

The "Diversification" Theory. Developers were asked if recruitment has helped them identify weaknesses in the community Eighty-eight percent of those surveyed said yes (N=71). Of that 88%, do the majority of decision makers recognize the problem and/or has the community been involved in making their service area more attractive to outside businesses? Ninety-six percent (N=68) of this 88% said yes--their community has been involved in making their service area more attractive to outside businesses. However, only 52% (N=37) said that community decision-makers perceive the unattractive aspects of their community as the reasons for problems with recruiting and a small proportion. Also, a mere 28% (N=20) reveal that businesses have gone on the record that these unattractive areas are the reasons for problems with recruiting.

The "High Discount Rate" Theory. Do developers have a high discount rate? Several questions were aimed at testing this hypothesis, and revolved around a hypothetical scenario involving a software firm that was considering moving to the respondent's service area. A social discount rate of 10% is a generally accepted standard for public investments (Lyon, 1990; Freeman, 1993). Developers were asked, using an implicit discount rate of 10%, if they would rather have the 10 employees today or 16 employees five years from now. Ninety-nine percent responded that they would rather have the firm today. Only one respondent indicated no preference between the two options. With 99% indicating they would rather have the firm today, developers showed strong support for a discount rate of higher than ten percent.

To get a better understanding of developer's discount rates, several survey questions were asked to reveal the respondents willingness to pay for jobs using the contingent valuation method (CVM)[7]. The same implicit 10% discount rate was imbedded into the CVM questions, with developers being asked how much the community would pay to attract an increasing number of jobs at various times in the future. As the time horizon increased, the number of respondents

[7]For more information on CVM see Cameron (1988), Cameron (1987), Cameron and Huppert (1991), Cooper (1993), Diamond & Hausman (1994), Hanemann (1994), Milgrom (1992), Mitchell & Carson (1990), and Portney (1994).

willing to provide incentives decreased, also indicating a higher than 10% discount rate for developers switching from the yes to the no column (Table 9).

Table 9: Developers' Willingness to Pay

	Willing to Pay?	
Job Scenario	**Yes**	**No**
Pay for 10 jobs now?	83% (N=67)	17% (N=14)
Pay for 11 jobs in one year?	74% (N=60)	27% (N=21)
Pay for 14 jobs in three years?	60% (N=49)	40% (N=31)
Pay for 16 jobs in five years?	52% (N=42)	48% (N=39)

As might be expected, the subtleties of the contingent valuation questions reduced the number of usable responses. Twenty-one percent (N=17) of the sample responded they would be willing to pay for the jobs to move to their area but did not indicate how much they would be willing to give, making these responses unusable for contingent valuation analysis. Nineteen percent (N=15) of the sample stated they were not willing to give anything for the software company to move to their service area. Although the survey asked developers to give amounts in dollar terms, 23% (N=19) gave willingness to pay in terms of percent of real and personal property tax alleviated over so many years [8]. (Table 10).

Table 10: Discount Rate Results

Developer Willingness to Pay Over Time				
	Constant	Increasing	Decreasing	Changing
Dollar Terms	12% (N=10)	4% (N=3)	17% (N=14)	4% (N=3)
Percentage Terms	12% (N=10)	0	11% (N=9)	0

[8] To convert these percentages into current dollar values, 12 independently owned software firms throughout Ohio, similar to the hypothetical software firm created for this study, were surveyed by telephone. Approximate real and personal property tax amounts were obtained. Average real and property tax bills were discounted over the period of time developers wished to relieve the software company. This amount took into consideration the percentage of tax burden the individual developer chose to relieve. These amounts were then divided by the number of jobs available at the software firm for the current year of development, giving a willingness to pay per job.

Of those responding to the contingent valuation questions involving how much a service area would spend and/or give up in tax receipts for software jobs to locate in a service area, 24% reported a **constant** break for the business, giving up the same amount across time, as they decided on how much the jobs were worth to their service area. These results for this 24% are open to two interpretations. At first brush it appears that these developers have a discount rate of 10%, but this is not consistent with their response to the earlier question, in which they all preferred 10 jobs now to 16 jobs five years from now. A second possibility, which is more consistent with responses to the earlier question, is that they have a discount rate higher than 10%, but some (legal or implicit) limits on how much they can give firms are imposed upon them. So they respond with the maximum in all cases.

Only 4% of respondents gave answers indicating a lower discount rate than 10%, i.e. they were willing to pay **more** in the later years of the scenario. Another small group (4%) was not consistent in the amounts they would pay for the jobs, increasing the amounts in some years, decreasing in other years. The remainder of this subsample, 28%, had a discount rate higher than 10%, and were willing to pay less for the jobs further in the future. Table 11 summarizes the values reported by these respondents.

Table 11: Contingent Valuation Results

Amount developer would commit to spend and/or give up per job					
Jobs Scenario	**High ($ per job)**	**Low ($ per job)**	**Mean ($ per job)**	**Median ($ per job)**	**Mode ($ per job)**
Pay for 10 jobs now?	30,000	0	6,817	5,000	5,000
Pay for 11 jobs in one year?	27,273	0	6,046	4,700	0
Pay for 14 jobs in three years?	27,273	0	5,252	3,928	0
Pay for 16 jobs in five years?	15,625	0	3,222	819	0

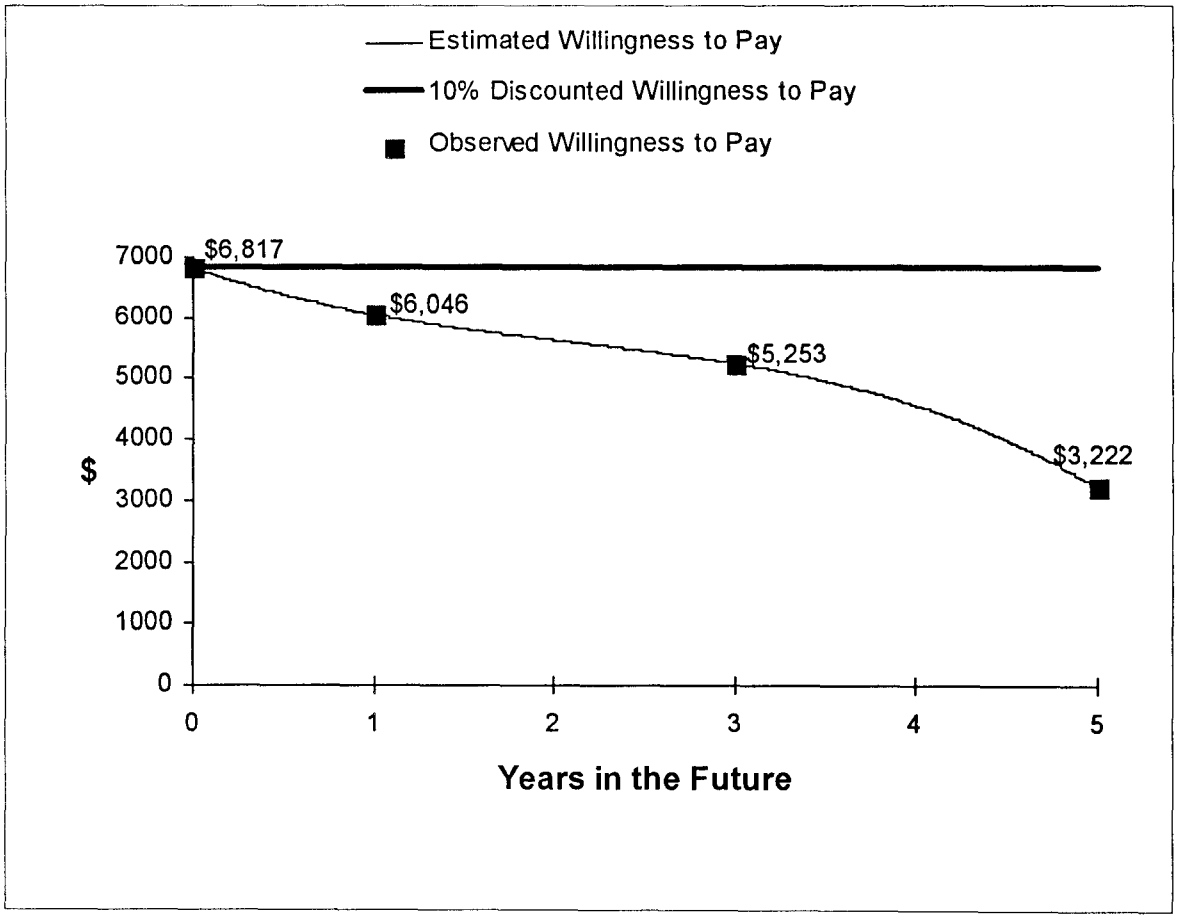
Even the highest value in Table 11 ($30,000 per job) is considerably less than the more recent offers reported in Table 1. Clearly state government has more resources and is therefore willing to bid much more per job than are local economic developers. The mean data on developer willingness to pay for jobs were used to model the relationship between time and payment:

$$y = 6817 - 1063.6x + 348.5x^2 - 55.917x^3 \quad \text{(eqn. 1)}$$

where y is the amount of incentive package developer is willing to give and x is the number of years from the current time period. Equation 1 gives an r^2 equal to 1. The model shows that on average, developers indicated a discount rate roughly 10% above the 10% discount rate embedded in the scenario (Figure 1), and that this deviation from generally accepted discount rates increases nonlinearly with time. Projecting the results into year seven yields a negative

result, indicating that on average developers would not be willing to pay anything for activity that far in the future.

Figure 1: Developer Willingness to Pay



SUMMARY

The "Tradition" theory appears to have been refuted, showing that while developers still look to industrial recruitment as a vital part of their local economic development strategy, they do not give it very high odds for success. With the average odds of recruitment at "1 in 10" developers ranked recruitment second out of eight in importance to their constituents and when considering odds of success--a partial confirmation of the "Expected Value" hypothesis. This result may have been biased by the more detailed listing of industries for industrial recruitment.

Not one respondent consistently gave recruitment zero odds of success. This supports the "Everyone Can Aspire to Recruit" theory. No matter what type of communities were associated with the economic developers, they saw at least some chance of successfully attracting a large firm.

The data do not support the "Weak Communities" theory. Responses indicated it would be easier to give subsidies to existing companies, not new companies. This is the opposite of what the emphasis on industrial recruitment would lead one to believe. However, the survey left other aspects of the "Weak Communities" hypothesis untested. The "Diversification" theory, however, was supported by the existing data. Of those who responded to the survey, many saw industrial recruitment as a way of diversifying the base of the economy.

Developers consistently dropped off over time in their assessment of incentive amounts they would be willing to give a software company to locate in their service area, supporting the "High Discount Rate" theory. Developers look for results now and care less about what happens later. The sooner developers get the jobs to their service area, the greater the payoff. Even though the software firm scenario indicated to developers that if the firm moved as soon as possible there would be no chance of growth, developers were still willing to give more incentives for the short-term job growth.

CONCLUSIONS

Before drawing conclusions from this study, several weaknesses of the method should be mentioned. First, it is a survey-based study, and local economic developer's actions may differ from what they report in a hypothetical survey context. Second, the study focused on one state only; since economic development policies differ from state to state, choice of state may have influenced the survey results. Ohio is widely perceived to be one of the more active states in the economic development arena. Third, the survey did not receive responses from highly rural communities. Economic developers in most rural areas may have attitudes that are quite different from those in more densely populated areas. Also, this study recognizes the transfer of benefits at the national level but focuses only on the local benefits issue. Keeping these shortcomings in mind, the survey appears to refute some theories about why economic developers pursue industrial recruitment; other theories appear to be supported.

What are the implications of the findings for public policy? Given the limited scope of the study, it is too early to make concrete policy recommendations. The study needs to be verified through surveys of other states and with other methods. If the research results consistently show a discount rate of roughly 20%, then attention needs to be given to policies regarding local economic developers' terms of employment. Is it possible for an economic developer on an

annually renewable contract to take the long view? It seems unlikely. Thought should be given to extending contracts and operating budgets to longer time periods, while still maintaining incentives to do a good job in the short run. Guidelines and educational programs for local review committees would be helpful in explaining the long term nature of the development process to results-oriented local leaders.

The contingent valuation method (CVM) was chosen as the method to give the most accurate value of jobs with the least amount of bias. The CVM has been the subject of numerous studies and the advantages and disadvantages of its use have been battled out in the literature. Job valuation is a direct step forward to gathering information on what nonmarket goods we can value accurately. The CVM can eventually be used to test whether the economic policies of developers regarding incentive packages match citizen preferences. Future research using the CVM should obtain values across parties, from both citizens and developers. To do this accurately, the amenity value of jobs must be estimated--recent research indicates that the in-migration caused by job creation may have significant amenity effects (Herzog and Schlottman, 1993).

When looking at how respondents valued the software jobs, it was important to understand that relatively lower wages in rural areas are as acceptable as somewhat higher urban wages for equivalent jobs (Deaton et al., 1982). This means willingness-to-pay may be different between a rural and urban area, though not necessarily resulting in a utility difference. The reasons behind developer's job valuation are applicable to other populations but may not result in the same measures because utility differentials can be triggered from the psychic costs associated with different geographic regions.

A better understanding of industrial recruitment and the factors that influence development policies is important to design better policies to help communities grow and develop. Continued exploration of the reasons for the gap between research findings and practitioner behavior will better focus the research and policy conclusions. From this continued analysis, an accurate comparison of behavior and results can be made. With a better understanding of citizens' desires, practitioner motivations, and service area constraints, better local economic policies can be developed.

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