GROWTH, MOVEMENT, AND DECLINE OF CENTRAL-CITY AND SUBURBAN MANUFACTURING FIRMS

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INTRODUCTION

Central cities have been simultaneously hit by deindustrialization and an accelerating suburbanization in recent years. Deindustrialization describes a process of manufacturing job loss that has had a devastating impact in areas of this country traditionally reliant upon manufacturing for a highly paid employment base. Suburbanization involves a flow of affluent citizens, jobs and capital that leaves less well educated workers, and most especially black workers in older industrial cities like Toledo, Ohio as particularly vulnerable to unemployment.

A Cleveland Federal Reserve Bank study shows that the ten largest Great Lakes cities from Buffalo to Minneapolis (and including Columbus and Indianapolis, but not Toledo) lost 27.4 percent of their manufacturing employment between 1969 and 1989. Because the Great Lakes states' manufacturing "location quotient" (the states' percentage of employment in manufacturing divided by the national percentage of employment manufacturing) remained approximately the same over this 20 year period, the authors of the study assert that "relative to the rest of the nation, virtually all of the shrinkage in manufacturing's share of jobs in these [10 Great Lakes] cities was offset by increases in factory jobs in smaller municipalities or rural areas of the Midwest." The authors cannot ascertain, with their data, the extent to which specific jobs are moving from the large city to more rural areas, but they do suggest a one-way flow when they assert "a general transfer of factory jobs from urban to rural locations" and explain this transfer of jobs with reasons why manufacturers will "locate outside large-city boundaries, including the recent decline in transportation and communications costs, shrinking plant sizes, greater awareness of costs of environmental contamination, and union avoidance."[1]

In his new book, William Julius Wilson paints a depressing picture about expanding urban ghettos, which are marked by poverty and unprecedented joblessness. "In the nation's one hundred largest central cities, nearly one in seven census tracts is at least 40 percent poor." This is a doubling of such census tracts between 1970 and 1990.[2] The levels of joblessness have become truly astounding. According to Wilson,

> In the ghetto census tracts of the nation's one hundred largest central cities, there were only 65.5 employed persons for every 100 adults who did not hold a job in a typical week in 1990. In contrast, the nonpoverty areas contained 182.3 employed persons for every hundred of those not working.[3]

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[1] Erica L. Groshen and Laura Robertson, "Are the Great Lakes Cities Becoming Service Centers?" Federal Reserve Bank of Cleveland, *Economic Commentary* (June 1, 1993).

[2] William Julius Wilson, *When Work Disappears: The World of the New Urban Poor* (NY: Alfred A. Knopf, 1996), p. 12.

[3] Ibid., p. 19.

Focusing on Chicago, Wilson argues that the joblessness is primarily a function of the loss of blue-collar manufacturing jobs in the city. This has led to a "growing mismatch between the suburban location of employment and minorities' residence in the inner city."[4]

Wilson's focus is on the joblessness and its social and personal consequences. For support of the "spatial mismatch hypothesis," he relies on the work of others who tend to assert a one-dimensional flow of jobs out of the city.[5] Hence, we lack documentation of the absence of manufacturing jobs in proximity to those in the ghetto tracts suffering the joblessness.

The spatial mismatch hypothesis suggests the vulnerability of poorly educated inner-city residents to joblessness. In a careful and detailed analysis of census data, Kasarda (1990) demonstrates a devastating loss of manufacturing and other blue-collar jobs in major cities of the Northeast and upper Midwest during the 1970s and 80s. Simultaneously, he demonstrates a smaller increase in information processing jobs, which are spatially but not functionally accessible to less well educated urban residents. In this context, the structural mismatch between city jobs and black labor becomes quite explainable: "As blue-collar and other less knowledge-intensive jobs dispersed to the suburbs, working-class whites were able to relocate much more easily than blacks.[6]

Based on interviews with personnel and other officers in Los Angeles and Detroit firms, Tilly goes further. He argues that "race as well as space, come into play."[7] From his interviews, it is clear that many manufacturers did select suburban locations for cheap land, but "insurance companies and some manufacturers have identified a target workforce that is non-inner city and primarily white (or in at least one case, Latino). Some such employers have left the central city to locate closer to the target workforce.[8]

In their analysis of how downtown Cleveland depends upon the suburbs to fill its professional, high-skill, high-wage, white-collar jobs, Bingham and Kalich note the support their data offer for the spatial mismatch hypothesis:

> City of Cleveland residents are educationally ill prepared for the jobs the downtown has to offer. The preponderance of jobs employing lower educated

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[4] Ibid., p. 37.

[5] Ibid., pp. 38-39.

[6] John D. Kasarda, "Structural Factors Affecting the Location and Timing of Urban Underclass Growth, " *Urban Geography*, 11 (May-June, 1990), p. 251.

[7] Philip Moss and Chris Tilly, "Raised Hurdles for Black Men: Evidence from Interviews with Employers" (Russell Sage Foundation: November, 1995 [http://epn.org/sage/rstimo.html])

[8] Ibid.

workers are in the suburbs, although in metropolitan Cleveland's case, there does not appear to be a shortage of lower educated suburbanites to fill them.[9]

Moreover, assert Bingham and Kalich, the manufacturing industries that could provide jobs to lower educated Clevelanders "are either retrenching or moving their production facilities to rural areas or offshore" and "there is no evidence that Cleveland will have any luck targeting manufacturing industries."[10]

A major problem with many analyses of jobs is their static quality. Census and major economic data series provide snapshots. The dynamics underlying the change from one snapshot to another is often difficult to discern. Indeed, the impression left by the analyses of Los Angeles and Detroit by Tilly and Chicago by Wilson is a virtual one-way movement by firms in search of cheap land, a more desirable work force, etc. From the standpoint of the city, it would appear that there are no positive trends in place.

BACKGROUND ON TOLEDO

Toledo is an industrial city historically linked to the auto industry in neighboring Detroit and would appear to be increasingly subject to the spatial mismatch of manufacturing jobs and less-educated workers. For its size as an industrial city, it was into the 1980s, atypical in one major respect. It was the home of six Fortune 500 firms. For decades, they dominated the employment picture in Toledo. Then in the 1980s, each of the firms underwent dramatic changes, ranging from downsizing and restructuring to friendly and unfriendly leveraged buyouts attempts and successes. Between 1977 and 1988, the number of manufacturing jobs in Lucas County declined from 57,934 to 45,454.[11] Of the approximately 12,500 jobs lost, over 9,000 can be directly traced to downsizing, moves, and shutdowns by the Fortune 500 firms.[12] By 1992, the manufacturing employment had further declined in Lucas County to 36,101.[13]

Despite the economic resurgence in the 1990s of the Midwest, including the Toledo area, the city has not fully recovered from the loss of Fortune 500 firm dominance. The city continues to struggle to develop an effective economic-development strategy. Overall appearances suggest a very vibrant economy in the suburbs, but a sluggish city economy.

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[9] Richard D. Bingham, Veronica Z. Kalich, "The Tie That Binds: Downtowns, Suburbs, and the Dependence Hypothesis," *Journal of Urban Affairs*, Vol 18, no.2 (1996), pp. 166-67.

[10] Ibid., p. 169.

[11] U.S. Bureau of the Census, *County Business Patterns*, 1979 and 1988, **Ohio** (Washington, DC: U.S. Government Printing Office)

[12] Larry Connin and Ronald Randall, "Local Economic Development and the Roles of Government: Through the Lens of Toledo," (UT Urban Affairs Center, Processed), p.4.

[13] U.S. Bureau of Census, *County Business Patterns*, 1994, **Ohio** (Washington, DC: U.S. Government Printing Office)

The movement of population from the City of Toledo to its suburbs is producing a serious population loss for the City of Toledo and increasing racial segregation in the Toledo metropolitan area. From 354,635 in 1980, the Toledo population fell to 332,943 in 1990, a loss of more than 22,000 people in 10 years.

The population changes are leading to increased segregation of the area by race and income. Between 1980 and 1990, Toledo's white population dropped by 27,681 while the black population increased by 3,848. In the remainder of Lucas County, the white population increased by 10,972, while the black population increased by 707.

Per capita income provides an indication of the level of economic and fiscal health in a region. Toledo has been experiencing a significant decline in the level of economic health relative to its suburbs. In 1970, the per capita income in Toledo was 96 percent of the suburban level. This central-city/suburban per capita income ratio dropped to 90 percent in 1980, and 82 percent in 1987. In 1990, the Toledo per capita income of $11,894 was only 74 percent of the $16,063 per capita income for the suburbs.

As with the population shift, the economic-development successes in Toledo's suburbs have come largely at the expense of Toledo. To illustrate, the Urban Affairs Center recently conducted a complete history of a successful and well-managed suburban industrial park. The Arrowhead Industrial Park, located in the Toledo suburb of Maumee, was created in 1976. After a slow start, it has grown to include approximately 240 firms and 14,000 workers. Currently, 30 percent of the workers are in firms that moved from Toledo; one half of the employees come from those former Toledo firms, and nearly two-thrids of payroll come from the former Toledo firms. We can identify only three or four firms in this successful industrial park that were attracted from the outside region. Obviously, the industrial park's greatest success has been in its ability to attract its larger and higher-paying firms from the City of Toledo. We have no reason to believe that careful examination of other suburban industrial areas would not reveal similar results.[14]

It appears that the good manufacturing jobs are all heading to the suburbs and beyond, which further harms the central city, especially the inner city. There is something unsettling about this picture for anyone who has been involved in inner-city economic development efforts. Firms clearly go, but on occasion, they also come. In what proportions cannot be ascertained with the usual aggregate-level, urban economic data. Tracking the behavior of individual firms will help us sort out the underlying pattern of firm movements.

For this study, we examine data at the firm level for manufacturers in Lucas County over the period 1989-1995. Using the ES-202 database, we can track the moves and appearances and disappearances of firms in Lucas County over the study period.

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[14] James. P. LeSage and Lawrence J. Connin, "Report on City Council Water Distribution Study" (University of Toledo, Urban Affairs Center, processed, November 1994)

Data

Employers in all states are required to report the number of their employees and wages to Unemployment Compensation offices, except for certain exclusions including sole proprietorships, churches and small agricultural enterprises.

The University of Toledo's Urban Affairs Center is participating in the Ohio Urban University Program's ES-202 project. The data set comes from the Ohio Bureau of Employment Security, conditioned upon our acceptance of confidentiality agreements. We are not to reveal any information about individual firms.

The data set, as we receive it, has two shortcomings. The first involves reporting. We want to know the specific location of all employees. Multi-establishment firms are supposed to report their employment and wages by establishment. Unfortunately, many firms continue to report from a single central location. To correct for this problem, the Ohio university units participating in the ES-202 project are "cleaning" the data, or assigning the employment and payroll to the proper establishments and correct addresses. The second shortcoming, which we have discovered in cleaning and in efforts to link firms in this data set to firms in other data sets, is that a small number of covered firms do not report.

Whatever the shortcomings, and we do not regard them as major once that data are cleaned, this data set allows us to move from aggregate-level analysis down to individual firms. This allows for powerful analysis in tracking changes in size, payroll, wages, and location of individual firms.

In our case, cleaning has been completed for manufacturing firms in Lucas County for the period 1989 to 1995. These are the data for the following analysis.

Lucas County is the central county for the Toledo MSA. Cleaning is continuing for Fulton and Wood counties and those data will be added to this analysis when completed.

For this study, we geo-coded all the Lucas County manufacturing firms and tied them to census blocks and to three rings, as shown in Map 1. The three rings are built from census block groups. The inner ring comprises the inner city of Toledo, the outer ring is the rest of Toledo and the suburban ring includes everything in Lucas County outside the city of Toledo. An analysis by these rings allows us to track and compare the behavior of manufacturing firms in the most deteriorated and the most prosperous areas of the county.

MAP 1 ABOUT HERE

FINDINGS

Manufacturing Change in the 3 Rings

Table 1 displays change in the number of manufacturing firms, workers, and average wage in the three rings for 1989 and 1995. During this period, the number of firms increased in all three rings; however, the number of jobs decreased in both rings of the city but increased in the suburban ring.

Although the city of Toledo clearly dominates the Lucas County suburbs in the number of manufacturing jobs, it lost considerable ground from 1989 to 1995. In 1989, the two Toledo rings combined for 36,232 or 80.1 percent of all the manufacturing jobs in the county; this dipped to 28,676, or 76.2 percent of the jobs in 1995.

TABLE 1 ABOUT HERE

The average wage for manufacturing workers was several thousand dollars higher in the Lucas County suburbs in 1989 and that gap had widened by 1995. We assume that this city-suburb difference is typical, but we do note that a wage analysis for Milwaukee, using ES-202 data showed manufacturing wages higher in the central city than the suburbs for both 1979 and 1989. However, this may be an artifact of cleaning—many larger suburban plants may be reporting from a downtown location.[15]

The city of Toledo depends primarily upon its 2 ¼ percent payroll tax for its general fund. Table 1 shows a payroll loss in Toledo over this 6 year period of about $230 million, which represents a payroll tax loss to the city of $5,175,000 in 1995. Meanwhile, the Lucas County suburbs gained $77.6 million in payroll. (Because of differing payroll tax rates in the suburban municipalities and no payroll tax in the unincorporated areas of the county, we cannot estimate the increased revenues in the suburbs from this growth in payroll.)

While we expected the deterioration in the inner ring to exceed that of the outer ring, it appears at this stage of the analysis that is not true. For example, the outer ring of the city suffered a severe deterioration in average wage over the period. Starting at near parity with the suburbs in 1989, it ended with average wages below those in the inner ring by 1995, and both the inner and outer ring were, in 1995, far below that of the suburban ring (374 jobs).

Changes in Size of Firms by Ring

Table 2 displays the distribution of firms by size for 1989 and 1995, within the three rings. No area of Lucas county was immune from the downsizings of large

[15] See Sammis B. White and William F. McMahon, "Why Have Earnings Per Worker Stagnated?" *Journal of Urban Affairs*, 17 (No 1, 1995), p. 40 and Table 3.

manufacturing firms. All three rings suffered losses of thousands of workers in the downsizing of the largest firms (over 250 employees). Indeed, the outer ring of the city suffered the largest losses, going from 12,244 employees in 1989 to 5,813 employees in firms over 250.

TABLE 2 ABOUT HERE

Aside from the loss of workers in the large firms in all three rings, there are some differences. All three rings show growth in the number of firms with 1-10 employees, but only the suburban ring shows a major growth in the number of employees in this group (from 277 to 403 employees, or a 45 percent increase). Although some writers suggest greater economic development attention be placed on small firms, Table 2 shows that even a dramatic increase in the number of such firms can have only minimal impact on the number of employees.

Aside from a growth in the number of very small firms in the inner ring, which produced virtually no increase in employment, the inner ring lost firms and employment in the 11-50 and 51-100 employee firms. To our surprise, this ring showed an increase in the number of firms in the 101-250 range and an increase in the number of employees from 2,535 to 3,860, or a 52.2 percent increase.

The outer ring displayed employment growth only in the firms sized 51-100 and 101-250.

It isn't until we get to the suburban ring that we see employment gains across the board, except for the firms over 250 employees where employment remained unchanged.

When we look at the three rings overall, we see gains and losses, but substantially more losses in employment in the two city rings and overall gains in the suburban rings. The largest losses are not in the inner ring, as we might expect, but in the outer ring of the city. Keep in mind that the two rings of the city started with approximately the same number of employees.

Firm Moves in Lucas County

Table 3 presents information on the moves of firms among the two city and the suburban ring of Lucas County. Over the 1989-1995 period, we are able to track the moves of 128 firms within Lucas County. Firms that moved into or from adjoining counties or other parts of the state or country are lost from our analysis.

TABLE 3 ABOUT HERE

The first observation is that most moves are of short enough distance to stay within the same ring. Of the 34 moves to the inner ring, 23 were by firms already there. Of the 51 moves to the outer ring, 39 were by firms already in that ring; and of the 43

moves to the suburban ring, 27 were by firms starting there. In total, 89 of the 128 moves (69.5 percent) were within ring moves.

When we look at the numbers of employees involved, and then at the wages involved, the picture changes.

Of the moving firms that started in the inner ring, those that stayed in the inner ring had 378 employees who had an average wage of $22,440; those that moved to the suburbs had 507 employees with average wage of $35,322. The 129 workers in firms that moved from the inner ring to the outer ring had average wage of $30,129. Looked at another way, of the moving employees starting in the inner city in 1989, 37.2 percent stayed there and 50 percent moved on to the suburban ring.

We can also look at the inward movement. Three small firms (with a total employment of 28 and average wage of only $20,656 moved from the suburban ring to the inner ring. Four firms, only slightly larger (with total employment of 123 and average wage of $21,099) moved from the suburban ring to the outer ring of Toledo. By contrast, the firms that moved, but stayed in the suburban ring showed much larger average wages of $30,201.

Of the moving firms in Toledo's outer ring that changed rings, the direction is clearly related to wage. The eight firms with 59 employees which moved to the inner ring had average wages $20,442. The 10 firms with 120 employees that moved to the suburban ring had dramatically higher average wages of $24,728.

In sum, the data for the manufacturing firms in Lucas County show the greatest amount of movement within close proximity of the original location. Beyond that there is a clear two-way flow: firms with more employees and higher wages are moving outward and smaller firms with lower wages are moving inward. Clearly, the dominant movement is outward, and with higher wages.

If both the greater numbers of employees and the higher wages in this two-way flow favor the suburbs, it still must be stressed that large numbers of manufacturing jobs remain in both rings of the City of Toledo. It is not yet too late to develop an economic-development strategy upon the remaining manufacturing base—to sustain it and to stem the flow of manufacturing jobs to the suburbs.

Appearances and Disappearances (Births/New Arrivals and Deaths/Exits)

We have not cleaned ES-202 data beyond Lucas County. Therefore, we are unable to track firms that move to or from other Ohio counties or other states. When we see the appearance of a new firm in our Lucas County data set, we cannot determine if it is a birth or a relocated firm from outside Lucas County. Similarly, we cannot distinguish between a firm death and an exit from Lucas County. Thus, in this section, we examine births/new arrivals and deaths/exits as appearances and disappearances, which are displayed in Table 4.

TABLE 4 ABOUT HERE

The period between 1989-1995 shows a substantial excess of appearances over disappearances in Lucas County, with consequent large increases in the number of employees and payroll. The average wages of appearances are well above the average wages of disappearances for all three rings.

What is most surprising is the performance of the inner ring compared to both the outer ring and suburban ring. More jobs appear in the inner ring (1965) than in the outer ring (1098) and suburban ring (426) combined. Although the average wage of the appearances in the inner ring ($34, 713) trails the suburban ring average wage ($37,432), it leads the outer ring average wage ($29,920). The inner ring also led the other rings in the number of disappearances and the number of employees in those firms.

The point to stress is the economic dynamism of Toledo's inner ring. While there is good reason to expect otherwise for an area in serious decline, we detect a considerable number of firm appearances—births or new arrivals from outside the area. The economic development challenge is clearly to nurture them and to stem the flow of firms and jobs, especially the higher wage ones, to the suburban ring and beyond.

CONCLUSION

Toledo displays the same overall trends that are found in most, older, inelastic cities—a flow of jobs, capital and population that leaves the central city poorer and the suburbs much better off. Unless the City of Toledo and other jurisdictions in Northwest Ohio come to grips with the rapid rate of suburbanization, the future of the City of Toledo becomes increasingly bleak—the home of fewer and poorer residents with fewer decent jobs.

But we see something in our analysis of the ES-202 data that other analysts missed as they developed their evidence for a spatial mismatch thesis. The change in manufacturing jobs is not the result of a unidimensional flow from central city to suburbs, at least not in Toledo. We discovered a surprisingly high rate of appearances of manufacturing jobs in the inner ring of the city of Toledo and some flow of jobs—albeit lower-wage ones—from the suburbs to the inner ring. Nevertheless, the aggregate flow was outward, as in the cities examined by Kasarda, Wilson and others.

The resulting spatial mismatch from the aggregate flow in Toledo has the same racial component as other major industrial cities of the Northeast and upper Midwest. "What is missing from current debate over urban policy," as David Rusk reminds us, "is any willingness to attack the urban problem as a matter of racial and economic segregation." He accuses both liberals, with their effort to pour money into the ghettos "(Big Buck Strategy)" and conservatives with their enterprise zones "(Big Bootstrap Strategy)" of "selling the same idea: quarantine "them" in inner city ghettos and barrios

away from "us" and help "them" build from within. Rusk insists that "'Separate but equal' cannot work."[16]

Rusk's recommendations center around increasing the elasticity of cities so that they can, in one way or another, benefit from the suburban growth, and reducing the concentration of the poor, especially poor blacks in the inner city through such techniques as affordable housing requirements and housing assistance programs metrowide.

Based on the dynamics of the manufacturing sector in Lucas County, with some movement into the city and the record of new appearances in the inner ring, an effective strategy would focus on retarding the movement of firms out to the suburbs. This could be done by eliminating state and local economic-development assistance that encourages firms to make such moves and greater planning controls to protect green fields from development.

We should reject the view that growth anywhere in the region is necessarily good for the region. When economic development becomes little more than the rearrangement of economic activity in a region, then both the central city and the suburban areas suffer—the former for the loss of jobs, income, tax base and unraveling of its social and cultural fabric and the latter for the cost of duplicating expensive infrastructure, usurping highly-productive farmland and the difficulty of creating a sense of community with urban amenities.[17]

[16] David Rusk, *Cities Without Suburbs* (Washington, DC: The Woodrow Wilson Center Press 1993), p. 121.

[17] Even Garreau wonders about this: "This is the paradox of Edge City. Will it ever have civilization? Will it ever have life? Or will it be a vampire, without a spirit of its own?" Joel Garreau, *Edge City: Life on the Frontier* (NY: Doubleday, 1991), p. 310.

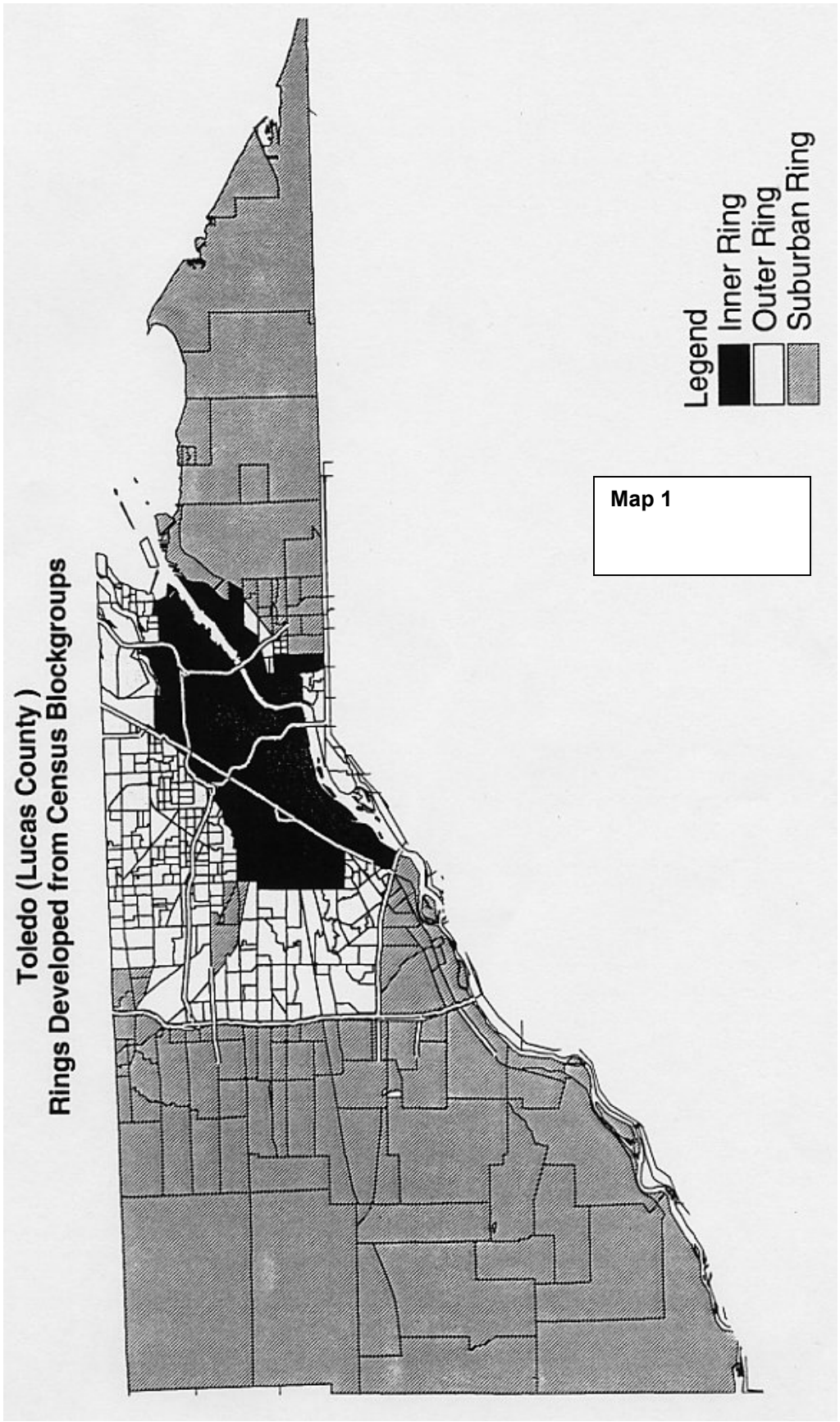
Toledo (Lucas County)
Rings Developed from Census Blockgroups
Legend
Inner Ring
Outer Ring
Suburban Ring
Map 1

Table 1

Change in Number of Manufacturing Firms, Employees and Payroll in Toledo
Inner Ring, Outer Ring, and Suburban Ring, 1989-1995

1989				
	Number of Firms		Payroll	Average Wages
Inner Ring	416	17,561	530,562,928	30,213
Outer Ring	370	18,671	699,993,714	37,490
Suburban Ring	189	8,573	318,175,040	37,113
	975	44,805	1,548,731,682	34,939

1995				
	Number of Firms		Payroll	Average Wages
Inner Ring	463	15,620	547,690,800	35,064
Outer Ring	433	13,056	452,111,690	34,628
Suburban Ring	243	8,947	395,873,260	44,246
	1,139	37,623	1,395,675,750	37,979

Change 1989-1995								
	Number of Firms Change	Percent Change	Employees Change	Percent Change	Payroll Change	Percent Change	Av. Pay Change	Percent Change
Inner Ring	47	0.11	(1,941)	-0.11	17,127,872	0.03	4,851	0.16
Outer Ring	63	0.17	(5,615)	-0.30	(247,882,024)	-0.35	(2,862)	-0.08
Suburban Ring	54	0.29	374	0.04	77,698,220	0.24	7,134	0.19
	164	0.19	(7,182)	-0.12	(153,055,932)	-0.03	3,041	0.09

Table 2

Size of Manufacturing Firms in Toledo
Inner Ring, Outer Ring, & Suburban Ring, 1989-1995

1 -10				
	Firms 1989	Emp 1989	Firms 1995	Emp 1995
Inner Ring	198	739.5	260	762
Outer Ring	215	772.25	284	792
Suburban Ring	91	276.75	143	403

11-50				
	Firms 1989	Emp 1989	Firms 1995	Emp 1995
Inner Ring	158	3,779	147	3,520
Outer Ring	106	2,467	103	2,196
Suburban Ring	64	1,422	63	1,493

51-100				
	Firms 1989	Emp 1989	Firms 1995	Emp 1995
Inner Ring	25	1,765	23	1,477
Outer Ring	19	1,273	28	1,927
Suburban Ring	15	1,091	18	1,109

101-250				
	Firms 1989	Emp 1989	Firms 1995	Emp 1995
Inner Ring	18	2,535	26	3,860
Outer Ring	13	1,916	15	2,328
Suburban Ring	10	1,388	10	1,447

Over 250				
	Firms 1989	Emp 1989	Firms 1995	Emp 1995
Inner Ring	11	8,742	7	6,002
Outer Ring	8	12,244	3	5,813
Suburban Ring	7	4,396	9	4,395

	Totals 1989	1995
Inner Ring	410	463
Outer Ring	361	433
Suburban Ring	187	243
	958	1,139

Table 3

Manufacturing Firms Moves in Lucas County
By Toledo Inner Ring, Outer Ring, & Suburban Ring, 1989-1995*

Total Moves						
Moved From	Number of Firms	Number of Employees	Percent	Payroll	Percent	Average Wages
Inner Ring	37	1,015	0.40	25,226,926	0.39	24,860
Outer Ring	57	641	0.25	14,009,322	0.22	21,847
Suburban Ring	34	885	0.35	25,341,350	0.39	28,634
	128	2,541		64,577,598		

Moved To:

		Inner Ring				
	Number of Firms	Number of Employees	Percent	Payroll	Percent	Average Wages
Inner Ring	23	129	0.81	3,894,215	0.24	22,440
Outer Ring	8	59	0.13	1,195,878	0.12	20,442
Suburban Ring	3	28	0.06	573,202	0.06	20,656
	34	465		10,256,973		

		Outer Ring				
	Number of Firms	Number of Employees	Percent	Payroll	Percent	Average Wages
Inner Ring	8	129	0.18	3,894,215	0.24	30,129
Outer Ring	39	463	0.65	9,858,437	0.60	21,281
Suburban Ring	4	123	0.17	2,600,396	0.16	21,099
	51	716		16,353,048		

		Suburban Ring				
	Number of Firms	Number of Employees	Percent	Payroll	Percent	Average Wages
Inner Ring	6	507	0.37	12,844,818	0.34	25,322
Outer Ring	10	120	0.09	2,955,007	0.08	24,728
Suburban Ring	27	734	0.54	22,167,752	0.58	30,201
	43	1,361		37,967,577		

*Disregards multiple moves. First and last locations in 1989-1995 time period are used.

Table 4

Appearances and Disappearances of Manufacturing Firms in Toledo Inner Ring, Outer Ring, & Suburban Ring, 1989 – 1995

Appearances					
	Number of Firms		Number of Employees	Payroll	Average Wages
Inner Ring	99	7,858	1,965	68,194,258	34,713
Outer Ring	121	4,393	1,098	32,859,724	29,920
Suburban Ring	66	1,703	426	15,936,185	37,431
	286				

Disappearances					
	Number of Firms		Number of Employees	Payroll	Average Wages
Inner Ring	44	5,023	1,256	32,676,111	26,021
Outer Ring	42	3,939	985	23,269,343	23,630
Suburban Ring	12	1,116	279	6,707,967	24,043
	98				