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How Tax Increment Financing (TIF) Districts Correlate with Taxable Properties

RANDALL K. JOHNSON¹

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I. INTRODUCTION

In 1977, the Illinois General Assembly authorized the Tax Increment Allocation Redevelopment Act.² Other Tax Increment Financing (TIF) laws followed in subsequent years.³ The original TIF statute authorized the use of future tax revenues to offset the current costs of land acquisition and improvements.⁴ But, in order to use TIF, local governments have to draw up redevelopment project plans, issue public debt to finance their plans, and agree to use future tax revenues to retire their debt.⁵ Once local authorities approve the government’s plan, the area is recognized as a TIF District.⁶ TIF Districts, usually, are authorized for twenty-three years.⁷

As a rule, every taxing entity within a TIF District “must allocate their incremental property tax revenues[, which are] derived from the redevelopment project area[,] to the payment of redevelopment project costs that qualify under the TIF Act.”⁸ This mandatory transfer of revenues has been challenged on many grounds,⁹ but Illinois courts support the practice be-

1. J.D. 2012, University of Chicago Law School; M.U.P. 2006, New York University; M.Sc. 2003, London School of Economics; B.A. 2000, University of Michigan.

2. 65 ILL. COMP. STAT. ANN. 5/11-74.4-1 (West 2013).

3. See, e.g., 55 ILL. COMP. STAT. ANN. 85/1 (West 2013); 55 ILL. COMP. STAT. ANN. 90/1 (West 2013); 55 ILL. COMP. STAT. ANN. 5/11-74.6-1 (West 2013).

4. 65 ILL. COMP. STAT. ANN. 5/11-74.4-2 (West 2013).

5. Paul N. Keller, Julie K. Kelly & Lawrence E. White, *Tax Increment Allocation Financing*, in ILLINOIS MUNICIPAL LAW: FINANCING, TAX, & MUNICIPAL PROPERTY 5-1, 5-5 (2012).

6. *Id.*

7. 65 ILL. COMP. STAT. ANN. 5/11-74.4-3.5 (West 2013).

8. Keller, *supra* note 5, at 5.2.

9. See, e.g., *People ex rel. Canton v. Crouch*, 79 Ill.2d 356, 363-65 (1980) (holding that TIF does not violate the Illinois constitutional requirement that taxing districts only spend tax revenues for proper public purposes and that the state legislature may decide how

cause “[t]he eradication of blighted areas and [the] treatment and improvement of conservation areas and industrial park conservation areas . . . is . . . essential to the public interest.”¹⁰

Legislative and judicial support for TIF, initially, was based on the premise that this economic development tool would “promote the redevelopment of depressed urban areas”¹¹ and serve as “a program of last resort to attract economic development to the most depressed areas in Illinois cities.”¹² However, over time, TIF’s underlying rationale has changed, as “[it] mutated into a general economic development program firmly within the tradition of the private economic development model.”¹³ Currently, TIF is justified by its promise to expand local tax bases¹⁴ by increasing tax revenues, the number of taxpayers, or the number of taxable properties in the area.

Typically, scholarly examinations of TIF ask whether this economic development tool delivers on its promise.¹⁵ Some research tests the relationship between TIF and standard measures of economic development.¹⁶ Other studies focus on the economic and social costs of TIF.¹⁷ A third category of work asks whether TIF distorts the local real estate market.¹⁸

tax revenues are distributed, so long as the decision is made for a proper public purpose); *People ex rel. Urbana v. Paley*, 68 Ill. 2d 62, 75 (1977) (holding that “commercial growth and [the] removal of economic stagnation” are proper public purposes and that some incidental private benefits do not negate these proper public purposes).

10. 65 ILL. COMP. STAT. ANN. 5/11-74.4-2(b) (West 2013).

11. Kent D. Redfield, *Trickle Down From the Rising Tide – TIFs and Urban Development Policy in Illinois*, PRAGMATICS, Summer 2002, at 3.

12. *Id.*

13. *Id.*

14. See, e.g., Leslie Hairston, *An Overview of TIF Districts*, THE CATALYST (Ill. State Bar Ass’n), Oct. 2008, at 2.

15. See, e.g., Richard Briffault, *The Most Popular Tool: Tax Increment Financing and the Political Economy of Local Government*, 77 U. CHI. L. REV. 65, 74 (2010).

16. See, e.g., Christopher E. Bartels & Jeremy L. Hall, *Exploring Management Practice Variation in Tax Increment Financing Districts: Toward an Administrative Theory of Performance*, 26 ECON. DEV. Q. 13 (2012); Brent C. Smith, *If You Promise to Build It, Will They Come? The Interaction Between Local Economic Development Policy and the Real Estate Market: Evidence from Tax Increment Financing Districts*, 37 REAL EST. ECON. 209 (2009).

17. See, e.g., George Lefcoe, *Competing for the Next Hundred Million Americans: The Uses and Abuses of Tax Increment Financing*, 43 URB. LAW. 427 (2011); Sherri Farris & John Horbas, *Creation vs. Capture: Evaluating the True Costs of Tax Increment Financing*, 6 J. PROP. TAX ASSESSMENT & ADMIN. 5 (2009).

18. See, e.g., Deborah D. Thornton, *Tax Increment Financing: Magical Tool or Moral Hazard?* PUB. INT. INST. POL’Y STUD., Mar. 2012, at 3; Randal O’Toole, *Crony Capitalism and Social Engineering: The Case Against Tax-Increment Financing*, CATO INST. POL’Y ANALYSIS, May 2011, at 1.

The TIF literature, however, does not answer a basic question: Does this economic development tool positively correlate with expanded tax bases?¹⁹ The question is important because it avoids the difficult issue of causation, while also yielding insight into the nature of the relationship between TIF and expanded tax bases.²⁰ As a result, this Article answers the question for suburban Cook County, Illinois.²¹

This Article does so by introducing a new dataset, which makes three contributions to the TIF literature. First, it identifies every TIF District in suburban Cook County and matches each TIF District with the local township where it is located.²² Second, this Article uses property tax assessment data to determine which townships grew their real estate markets over time.²³ Lastly, it combines this TIF District information and property assessment data in order to find out if townships with larger percentage changes in their number of TIF Districts also have larger percentage changes in their number of taxable properties.²⁴ If the variables move together, which would indicate that TIF Districts positively correlate with taxable properties, this Article will find that TIF delivers on its promise.

19. This Article views correlation coefficients as a useful complement to more complex statistical analyses, such as regression and difference-in-differences. As a result, it uses this back-of-the-envelope approach to examine the relationship between TIF and expanded tax bases. This Article does so, specifically, by using Microsoft Excel's correlation function (CORREL). *See, e.g.*, OFFICE, <http://office.microsoft.com/en-us/excel-help/correl-HP005209023.aspx>.

20. For example, in keeping with a passage from a popular statistics textbook, “[i]f the two variables are associated, we will reduce our errors when our predictions about one of the variables are based on the knowledge of the other.” JOSEPH F. HEALY, *STATISTICS: A TOOL FOR SOCIAL RESEARCH* 341 (6th ed. 2002).

21. Counties are an appropriate unit of analysis because this local level of government is present in every U.S. state. *See, e.g.*, DAVID KENNEY & BARBARA L. BROWN, *BASIC ILLINOIS GOVERNMENT: A SYSTEMATIC EXPLANATION* 143-45 (3d ed. 1993). As such, counties are especially useful for the case-specific and comparative analysis of local economic development tools such as TIF; *cf., e.g.*, Travis W. Taylor, *Illinois Counties' Unreserved Fund Balances: Identifying Factors that Influence County Savings* 10 (April 1, 2011) (unpublished masters research paper) (on file with Southern Illinois University), *available at* http://opensiuc.lib.siu.edu/cgi/viewcontent.cgi?article=1078&context=gs_rp.

22. This information is provided in Table 1. Additional information about each county subdivision may be found in Cook County publications. *See, e.g.*, *Township Officials of Cook County Directory 2009-2013*, TOWNSHIP OFFICIALS OF ILL. (Feb. 14, 2010), http://townships.toi.org/township/info/88/1178_tocc%20directory%203rd%20edtion%202%2019%202010.pdf.

23. *See infra* Appendix at Tables 2, 3.

24. *See infra* Appendix at Table 6.

II. METHODOLOGY

This Article introduces a new dataset in order to test the claim that TIF Districts positively correlate with taxable properties. This dataset, initially, identifies the location of every TIF District in suburban Cook County and provides property assessment data for the last twenty years.²⁵ The TIF District information was collected by the Office of the Cook County Clerk,²⁶ whereas the property assessment data was gathered by the Office of the Cook County Assessor.²⁷

These two data sources, then, are used to compute individual and group-level averages (by geographic location, jurisdiction, and year).²⁸ The averages are used to create baselines for each subset and for the entire population.²⁹ These baselines, in turn, help to determine whether each sample is drawn from the same population and distributed along a normal distribution.³⁰

This Article, later, calculates the change in the number of TIF Districts and in the number of taxable properties over time.³¹ Two methods are used: absolute change³² and percentage change.³³ Some researchers assert that absolute changes are more efficient than percentage changes,³⁴ especially

25. See *infra* Appendix at Tables 1, 2, 3. Cook County is organized into thirty suburban townships and one urban municipality. See DONALD FOSTER STETZER, SPECIAL DISTRICTS IN COOK COUNTY: TOWARD A GEOGRAPHY OF LOCAL GOVERNMENT 40 (UNIVERSITY OF CHICAGO DEPARTMENT OF GEOGRAPHY, NO. 169 1975). In terms of the geographic distribution of the thirty suburban townships, thirteen townships are located within Northwest Cook County and seventeen townships are in Southwest Cook County. *Id.* at 41. The municipality (Chicago) no longer has any official townships, although eight unofficial townships are recognized for tax purposes. *Id.* at 40. These unofficial townships are Hyde Park, Jefferson, Lake, Lake View, North Chicago, Rogers Park, South Chicago, and West Chicago. *Id.* at 41.

26. Office of the Cook County Clerk, *Tax Increment Agency Distribution Summary, Tax Year 2011*, COOK COUNTY CLERK 1, 1-86 (July 11, 2012), <http://www.cookcountyclerk.com/tsd/DocumentLibrary/2011%20TIF%20Distribution%20Summary.pdf>.

27. Office of the Cook County Assessor, *Cook County Property Tax Assessment Data, 1993-2012* (2013) (On file with author).

28. See *infra* Appendix at Tables 1, 2, 3.

29. See *infra* Appendix at Tables 1, 2, 3.

30. See *infra* Appendix at Tables 1, 2, 3.

31. See *infra* Appendix at Table 4.

32. Absolute changes are computed by subtracting each variable's final value by its initial value.

33. Percentage changes are computed by dividing each variable's absolute change by its initial value.

34. See, e.g., Andrew J. Vickers, *The Use of Percentage Change From Baseline as an Outcome in a Controlled Trial is Statistically Inefficient: A Simulated Study*, 1 BMC MED. RES. METHODOLOGY 6 (2001).

when the test result is larger than one or when the absolute changes have a greater correlation with baseline scores than percentage changes.³⁵ Other scholars argue that percentage change may be a better method than absolute change,³⁶ since this method of analysis is independent from the unit of measurement.³⁷ A third category of investigator does not weigh in at all: except to say that both methods are valid, but that their usefulness varies based on the research context.³⁸

This Article focuses on percentage changes in the number of TIF Districts for three practical reasons. First, this approach provides an easy way to examine the relationship between TIF and expanded tax bases (assuming that TIF Districts and taxable properties are useful, if indirect, proxies). Second, percentage change allows for meaningful comparisons to be made between townships of different sizes. Lastly, this approach complements the study of changes in tax revenues and in taxpayers by finding out how TIF Districts correlate with taxable properties.

This Article achieves its goals by equating changes in TIF with their physio-legal manifestations (changes in the number of TIF Districts). Similarly, it equates changes in suburban tax bases with another useful, if indirect, proxy (changes in the number of taxable properties). By doing so, this Article is able to use correlation coefficients to examine the relationship between these variables, in order to find out if townships with larger percentage changes in their number of TIF Districts also have larger percentage changes in their number of taxable properties.³⁹ As a result, this Article may find out whether TIF delivers on its promise.

It should be noted, however, that this Article's findings will not be accurate if it fails to account for selection effects, omitted variables, and other methodological issues.⁴⁰ These potential issues are dealt with deliberately in this Article. Selection effects are accounted for by testing only the thirty

35. See, e.g., Lee Kaiser, *Adjusting for Baseline: Change or Percentage Change?*, 10 STAT. MED. 1183 (1989).

36. See, e.g., Ling Zhang & Kun Han, *How to Analyze Change from Baseline: Absolute or Percentage Change?* (June 10, 2009) (unpublished essay) (on file with Dalarna University, Sweden), available at http://www.statistics.du.se/essays/D09_Zhang%20Ling%20&%20Han%20Kun.pdf.

37. See, e.g., Leo Tornqvist, Pentti Vartia & Yrjo O. Vartia, *How Should Relative Changes be Measured?*, 39 AM. STATISTICIAN 43 (1985).

38. Kaiser, *supra* note 35, at 1183.

39. Correlation coefficients are "a statistical method of quantifying the association . . . between two variables." Marcin Kozak, Wojtek Krzanowski & Malgorzata Tartanus, *Use of Correlation Coefficient in Agricultural Sciences: Problems, Pitfalls and How to Deal with Them*, 84 ANNALS BRAZILIAN ACAD. SCI. 1147 (2012).

40. See, e.g., John Antonakis, Samuel Bendahan, Philippe Jacquart & Rafael Lalive, *On Making Causal Claims: A Review and Recommendations*, 21 LEADERSHIP Q. 1086 (2010).

townships in suburban Cook County, since these county subdivisions are a part of the same regional economy and experience similar economic conditions over time.⁴¹ Omitted variables are dealt with by testing the thirty townships, individually and in groups (NW townships, SW townships), in order to determine if there are significant differences between townships.⁴² Other potential issues, such as reverse causation, are completely avoided by focusing on the correlation between TIF Districts and taxable properties in suburban Cook County.⁴³

These protections, if used properly in this Article, help to overcome a range of theoretical and practical issues. As a result, this Article may answer a single research question: Are TIF Districts positively correlated with taxable properties? This question is answered by determining if townships with larger percentage changes in their number of TIF Districts also have larger percentage changes in their number of taxable properties. If the variables move together, which would indicate that TIF Districts positively correlate with taxable properties, this Article will find that TIF delivers on its promise.

III. RESULTS

This Article draws on TIF District information and property assessment data for all thirty townships in suburban Cook County.⁴⁴ It does so to provide information about the number of TIF Districts in suburban Cook County,⁴⁵ the number of taxable properties in the area,⁴⁶ and the nature of the relationship between these variables.⁴⁷ The examination of this relationship, at least between 1993 and 2011, may show how TIF Districts correlate with taxable properties.⁴⁸

In carrying out its work, this Article uses correlation coefficients. This method explains the relationship between two variables, including when the variables are ordinal numbers.⁴⁹ Correlation coefficients do so by identifying the direction and the strength of the relationship between variables.⁵⁰ A positive relationship exists when a test result has no sign, whereas an inverse relationship exists when the test result is negative.⁵¹ The strength of

41. Antonakis, *supra* note 40, at 1094.

42. *Id.* at 1090.

43. *Id.* at 1094.

44. *See infra* Appendix at Table 1 (townships are listed in alphabetical order).

45. *See infra* Appendix at Tables 1, 4 (number of TIF Districts).

46. *See infra* Appendix at Tables 2, 3 (number of taxable properties).

47. *See infra* Appendix at Table 6 (nature of this relationship).

48. *See infra* Appendix at Table 6 (nature of this relationship).

49. *See, e.g.*, HEALY, *supra* note 20, at 341, 379.

50. *See, e.g.*, HEALY, *supra* note 20.

51. *See, e.g.*, HEALY, *supra* note 20.

the relationship, in contrast, is determined by whether the test result is closer to zero or one.⁵² It does not matter which of the variables is considered the independent variable or the dependent variable.⁵³

The use of correlation coefficients requires this Article to rank each suburban Cook County Township by its percentage change in TIF Districts and its percentage change in taxable properties.⁵⁴ Higher percentage changes are equated with higher township rankings, whereas lower percentage changes have lower township rankings.⁵⁵ In cases where the starting point is zero TIF Districts, the suburban township is excluded from my analysis.⁵⁶ As a result, this Article is able to examine the relationship between two variables over time: the percentage change in the number of TIF Districts and the percentage change in the number of taxable properties.

The results of this analysis are listed in Table 6. There is a negative and weak relationship between the percentage change in the number of TIF Districts and the percentage change in the number of taxable properties for each township (-0.09). This initial finding indicates that these variables do not move together between 1993 and 2011. Although this result is not statistically significant,⁵⁷ due to its probability values,⁵⁸ this initial finding nevertheless supports the claim that TIF Districts are not positively correlated with taxable properties in suburban Cook County.

IV. DISCUSSION

This Article's initial finding does not necessarily mean that TIF fails to expand local tax bases. Instead, it only indicates that scholars and practitioners need to do additional work. One option is to find out if TIF expands

52. See, e.g., HEALY, *supra* note 20. Generally speaking, zero to .24 (zero to -.24) is considered a weak relationship, .25 to .49 (-.25 to -.49) is a fairly-strong relationship, .50 to .74 (-.50 to -.74) is a moderately strong relationship, .75 to .99 (-.75 to -.99) is a strong relationship, and 1 (-1) is a perfectly-linear relationship.

53. See, e.g., HEALY, *supra* note 20.

54. See *infra* Appendix at Table 6 (provides rankings).

55. See *id.*

56. See *id.*

57. Statistical significance may be determined through the use of probability values, which are computed at the 0.05 level and at the 0.10 level. See, e.g., Daniel Soper, *Statistics Calculators*, DANIELSOPER.COM, <http://www.danielsoper.com/statcalc3/calc.aspx?id=44>. Probability values cannot exceed 0.05 for one-tailed probability values or 0.10 for two-tailed probability values, in order to be considered statistically significant. The initial result had probability values of 0.33 (one-tailed test) and 0.67 (two-tailed test). Thus, no firm conclusions may be drawn about the relationship between these variables.

58. The parameters for this probability value computation draw on correlation values (-0.09) and sample sizes (24).

local tax bases in other ways.⁵⁹ A second approach involves determining if TIF delivers on its promise in other geographic areas.⁶⁰ A third option is to find out if more traditional methodologies yield a similar result.⁶¹ In any event, more research is needed to fully evaluate TIF. To promote future research on suburban Cook County, this Article provides its data and computations in Tables 1 through 9.

Drawing on the first approach, this Article asks if TIF expands the local tax base in other ways. In testing the hypothesis, this Article uses indirect proxies for the two traditional ways to evaluate TIF: increases in tax revenues (income)⁶² and increases in the number of taxpayers (population).⁶³ This Article, then, computes percentage changes for each variable and ranks each township in descending order of their performance.⁶⁴ As a result, this Article may examine the relationship between percentage changes in TIF Districts and two variables, percentage changes in income and percentage changes in population, through the use of correlation coefficients.

As illustrated in Table 9, there is a negative and fairly strong relationship between the percentage change in the number of TIF Districts and the percentage change in income for each township (-0.33).⁶⁵ Similarly, as indicated in Table 9, there is a negative and fairly strong relationship between the percentage change in the number of TIF Districts and the percentage change in the population of each township (-0.39).⁶⁶ However, while the secondary result is not statistically significant,⁶⁷ due to its probability values,⁶⁸ the third result meets this threshold.⁶⁹ Each finding, nevertheless, supports the claim that TIF Districts do not positively correlate with taxable properties in suburban Cook County. Thus, the continued use of TIF may not be justified.

59. Cf., e.g., Paul F. Byrne, *Does Tax Increment Financing Deliver on Its Promise of Jobs?: The Impact of Tax Increment Financing on Municipal Employment Growth*, 24 ECON. DEV. Q. 13 (2010).

60. Cf., e.g., Joyce Y. Man & Mark S. Rosentraub, *Tax Increment Financing: Municipal Adoption and Effects on Property Value Growth*, 26 PUB. FIN. REV. 523 (2003).

61. Cf., e.g., Rachel Weber, Saurav Dev Bhatta & David Merriman, *Does Tax Increment Financing Raise Urban Industrial Property Values?*, 40 URB. STUD. 2001 (2003).

62. See *infra* Appendix at Table 7.

63. See *infra* Appendix at Table 8.

64. See *infra* Appendix at Table 9.

65. This result had probability values of 0.06 (one-tail) and 0.11 (two-tailed).

66. This result had probability values of 0.03 (one-tail) and 0.06 (two-tailed).

67. Soper, *supra* note 57.

68. This probability value computation draws on correlation values (-0.33) and sample sizes (24).

69. This probability value computation draws on correlation values (-0.39) and sample sizes (24).

V. CONCLUSION

This Article concludes that the use of TIF may not be justified in suburban Cook County. The conclusion, initially, was based on the negative and weak relationship between the percentage change in the number of TIF Districts and the percentage change in the number of taxable properties. This finding, later, was supported by testing the relationship between the percentage change in TIF Districts and the percentage change in two other variables: income and population. In this case, there was a negative and fairly strong relationship between TIF Districts and the two variables. Thus, in keeping with other recent work on Cook County,⁷⁰ the Article concludes that TIF may not deliver on its promise. This Article's conclusion, however, does not mean that TIF cannot expand tax bases in other geographic areas. Therefore, additional research is necessary in order to confirm or deny this claim.

70. See, e.g., T. William Lester, *Does Chicago's Tax Increment Financing (TIF) Program Pass the 'But-For' Test? Job Creation and Economic Development Impacts Using Time Series Data*, URB. STUD., (forthcoming 2014) available at <http://usj.sagepub.com/content/early/2013/07/09/0042098013492228>.

VI. APPENDIX

Table 1. Cook County Townships and Suburban TIF Districts, 2011

COOK COUNTY TOWNSHIPS⁷¹ (COUNTY TAX CODES)⁷²	COUNTY SUBDIVISIONS WITH TIF DISTRICTS⁷³	SUBURBAN TIF DISTRICTS
BARRINGTON* (100, 101)	BARRINGTON (6), HOFFMAN ESTATES (4)	10
BERWYN (110)	BERWYN (6)	6
BLOOM (120, 121, 122)	CHICAGO HEIGHTS (8), GLENWOOD (10), HOMewood (3), LYNWOOD (2), SAUK VILLAGE (13), SOUTH CHICAGO (5), STEGER (2)	43
BREMEN (130, 131)	BLUE ISLAND (3), COUNTRY CLUB HILLS (3), HARVEY (1), MARKHAM (9), OAK FOREST (3), HAZELCREST (4), MIDLOTHIAN (1), POSEN (2), TINLEY PARK (3)	29
CALUMET (140)	BLUE ISLAND (5), CALUMET PARK (9), RIVERDALE (15)	29
CICERO (150)	CICERO (6)	6
ELK GROVE* (160, 161, 164)	DES PLAINES (1), ROLLING MEADOWS (3), ARLINGTON HEIGHTS (1), ELK GROVE (2), MOUNT PROSPECT (3)	10
EVANSTON* (170)	EVANSTON (11)	11
HANOVER* (180, 181)	ELGIN (3), BARTLETT (2), HANOVER PARK (1), STREAMWOOD (2)	8

71. Illinois Counties and Incorporated Municipalities, JESSE WHITE, SECRETARY OF STATE, July 2012, at 4-26.

72. Office of the Cook County Clerk, *Tax Code Rate Summary*, COOK COUNTY CLERK (July 6, 2012), http://www.cookcountyclerk.com/tsd/DocumentLibrary/RATE%20SUMMARY2000_2011.pdf.

73. Cook County Clerk 2011, *supra* note 26. The author views each individual TIF Agency as a separate TIF District and thus identifies more 2011 TIF Districts (559) than the Cook County Clerk (280). The same approach is used to identify the number of 1990 TIF Districts. The author found that fifty-one TIF Districts were created by 1990.

LEMONT (190)	LEMONT (7)	7
LEYDEN* (200, 201, 202, 204)	NORTHLAKE (1), ELMWOOD (1), FRANKLIN PARK (24), MELROSE PARK (2), RIVER GROVE (4), ROSEMONT (12), SCHILLER PARK (5)	49
LYONS (210, 211, 212, 214)	COUNTRYSIDE (1), BRIDGEVIEW (3), BROOKFIELD (3), HODGKINS (2), JUSTICE (4), LYONS (6), MC COOK (7), SUMMIT (5), WILLOW SPRINGS (3)	34
MAINE* (220, 221, 222)	DES PLAINES (6), PARK RIDGE (4), ROSEMONT (1)	11
NEW TRIER* (230, 234)	N/A	0
NILES* (240, 244)	LINCOLNWOOD (3), MORTON GROVE (15), NILES (1), SKOKIE (7)	26
NORTHFIELD* (250, 251, 252)	GLENVIEW (3), NORTHBROOK (1)	4
NORWOOD PARK* (260)	N/A	0
OAK PARK (270)	OAK PARK (5)	5
ORLAND (280)	ORLAND PARK (1)	1
PALATINE* (290, 291)	ROLLING MEADOWS (2), PALATINE (6)	8
PALOS (300)	HICKORY HILLS (3), PALOS HEIGHTS (2), BRIDGEVIEW (3), WILLOW SPRINGS (2)	10
PROVISO (310, 311, 314)	NORTHLAKE (2), BELLWOOD (13), BERKELEY (2), BROADVIEW (8), FOREST PARK (4), HILLSIDE (5), MAYWOOD (6), MELROSE PARK (11), STONE PARK (3)	54
RICH (320, 321, 324)	COUNTRY CLUB HILLS (1), FLOSSMOOR (4), MATTESON (12), OLYMPIA FIELDS (1), PARK FOREST (2), RICHTON PARK (12), TINLEY PARK (1)	33
RIVER FOREST (330)	N/A	0

RIVERSIDE (340)	N/A	0
SCHAUMBURG* (350)	ROLLING MEADOWS (2), HANOVER PARK (2), HOFFMAN ESTATES (2), SCHAUMBURG (2)	8
STICKNEY (360, 361)	BEDFORD PARK (7), BRIDGEVIEW (2)	9
THORNTON (370, 371, 372)	BLUE ISLAND (2), CALUMET CITY (5), HARVEY (15), MARKHAM (4), DIXMOOR (4), DOLTON (8), EAST HAZELCREST (2), HAZELCREST (1), HOMEWOOD (8), LANSING (9), PHOENIX (3), POSEN (2), RIVERDALE (17), SOUTH HOLLAND (11), THORNTON (3)	94
WHEELING* (380, 381, 382)	PROSPECT HEIGHTS (9), ARLINGTON HEIGHTS (2), MOUNT PROSPECT (1), WHEELING (12)	24
WORTH (390, 391)	PALOS HEIGHTS (5), ALSIP (6), CHICAGO RIDGE (3), CRESTWOOD (1), EVERGREEN PARK (2), OAK LAWN (10), ROBBINS (1), WORTH (2)	30

Table 2. Change in the Number of Northwest Township Property Assessments, 1995-2010

*NW TOWNSHIPS	1995⁷⁴	1998⁷⁵	2001⁷⁶	2004⁷⁷	2007⁷⁸	2009⁷⁹	2010⁸⁰
BARRINGTON*	6,228	6,388	6,684	6,807	7,191	7,712	7,787
ELK GROVE*	28,284	29,941	30,442	31,462	32,759	33,206	33,241
EVANSTON*	20,407	20,817	21,355	22,782	24,414	24,938	25,222
HANOVER*	25,739	27,599	28,904	30,995	33,953	34,237	34,251
LEYDEN*	31,955	32,061	32,479	32,948	33,910	34,327	34,313
MAINE*	49,068	49,807	50,136	50,875	52,078	52,749	53,108
NEW TRIER*	22,569	22,672	22,898	22,920	22,959	23,157	23,217
NILES*	42,660	43,198	43,616	44,108	46,078	46,524	46,567
NORTHFIELD*	30,832	31,580	32,741	33,986	35,053	35,277	35,390
NORWOOD PARK*	9,416	9,518	9,629	9,634	9,668	9,859	9,856
PALATINE*	36,875	37,879	38,850	39,945	42,022	43,011	43,048
SCHAUMBURG*	44,347	45,212	45,374	45,516	46,282	47,144	47,146
WHEELING*	55,146	56,025	57,184	57,859	59,511	60,121	60,192

74. Cook County Assessor, *supra* note 27. Re-assessment data was provided by the Cook County Assessor and covers the years 1995 to 2010.

75. *Id.*

76. *Id.*

77. *Id.*

78. *Id.*

79. Cook County Assessor, *supra* note 27. In 2009, each township was reassessed due to 10%, 25% level changes.

80. *Id.*

Table 3. Change in the Number of Southwest Township Property Assessments, 1993-2011

SW TOWNSHIPS	1993 ⁸¹	1996 ⁸²	1999 ⁸³	2002 ⁸⁴	2005 ⁸⁵	2008 ⁸⁶	2009 ⁸⁷	2011 ⁸⁸
BERWYN	15,120	15,131	15,219	15,393	15,463	15,650	15,673	15,659
BLOOM	39,509	39,632	39,870	40,016	40,350	41,092	41,091	41,085
BREMEN	48,922	50,449	51,202	51,974	52,589	53,093	53,131	52,626
CALUMET	7,139	7,172	7,180	7,275	7,212	7,196	7,220	7,212
CICERO	17,185	17,201	17,286	17,330	17,313	17,318	17,318	17,308
LEMONT	6,413	7,037	7,688	8,006	8,657	9,145	9,243	9,375
LYONS	39,720	40,188	40,889	41,964	43,091	44,084	44,330	44,540
OAK PARK	15,852	16,105	16,574	17,015	18,053	18,921	18,951	18,983
ORLAND	28,903	32,344	35,351	37,397	39,277	40,225	40,339	40,384
PALOS	19,803	20,814	21,146	21,391	22,011	22,871	22,921	22,991
PROVISO	54,855	54,748	54,954	55,237	55,913	57,018	57,041	57,028
RICH	22,805	23,803	24,949	26,355	28,486	30,196	30,258	30,044
RIVER FOREST	4,268	4,330	4,395	4,525	4,510	4,527	4,525	4,526
RIVERSIDE	6,269	6,251	6,276	6,298	6,328	6,405	6,478	6,478

81. Cook County Assessor, *supra* note 27. Re-assessment data was provided by the Cook County Assessor and covers the years 1993 to 2011.

82. *Id.*

83. *Id.*

84. *Id.*

85. *Id.*

86. Cook County Assessor, *supra* note 27.

87. *Id.* In 2009, each township was reassessed due to 10%, 25% level changes.

88. *Id.*

STICKNEY	14,741	14,760	14,854	14,921	15,054	15,241	15,240	15,242
THORNTON	79,077	79,008	79,243	79,113	79,146	78,951	78,943	78,970
WORTH	59,045	60,296	61,506	62,688	63,512	64,866	65,023	65,039

Table 4. Change in the Number of Suburban Cook County TIF Districts, 1990-2011

COOK COUNTY TOWNSHIPS (*NORTHWEST TOWNSHIPS)	1990 TOTAL NUMBER OF TIF DISTRICTS ⁸⁹	2011 TOTAL NUMBER OF TIF DISTRICTS ⁹⁰	1990 TO 2011 ABSOLUTE CHANGES IN TIF DISTRICTS ⁹¹	1990 TO 2011 PERCENTAGE CHANGES IN TIF DISTRICTS ⁹²
BARRINGTON*	1	10	9	9
BERWYN	1	6	5	5
BLOOM	3	43	40	13.33

89. Office of the Cook County Clerk, *2010 Cook County TIF Districts & Revenue by Municipality*, DATA.COOKCOUNTYIL.GOV, <https://datacatalog.cookcountyil.gov/dataset/Cook-County-Clerk-2010-Cook-County-TIF-Districts-R/djva-8ge5> (last visited Apr. 26, 2013); *Analysis of Special Service Area Taxes and Tax Increment Financing Funds*, OFFICE OF INSPECTOR GENERAL: CITY OF CHICAGO, <http://chicagoinspectorgeneral.org/publications-and-press/analysis-of-special-service-area-taxes-and-tax-increment-financing-funds/> (last visited Apr. 26, 2013); SSA-TIF Analysis Worksheet- Final 4-4-12, OFFICE OF INSPECTOR GENERAL: CITY OF CHICAGO, <http://chicagoinspectorgeneral.org/publications-and-press/analysis-of-special-service-area-taxes-and-tax-increment-financing-funds/> (last visited Apr. 26, 2013); Office of the Cook County Clerk, *Tax Increment Agency Distribution Summary, Tax Year 2005 1-70* (August 9, 2006). I used these Cook County datasets to find the geographic location of each of the suburban TIF Districts that were authorized by 1990. These TIF Districts are: Rosemont (Leyden, 1979), Homewood (Thornton, 1981), Harvey (Thornton, 1983), Oak Park (Oak Park, 1983), Rosemont (Leyden, 1984), Des Plaines (Maine, 1985), Evanston (Evanston, 1985), Mount Prospect (Elk Grove, 1985), Wheeling (Wheeling, 1985), Lansing (Thornton, 1986), Franklin Park (Leyden, 1986), Arlington Heights (Wheeling, 1986), Chicago Ridge (Worth, 1986), Oak Forest (Bremen, 1986), Justice (Lyons, 1986), Niles (Niles, 1986), Homewood (Thornton, 1986), Elmwood Park (Leyden, 1986), La Grange (Lyons, 1986), Northlake (Proviso, 1986), Hodgkins (Lyons, 1986), Berwyn (Berwyn, 1987), Hanover Park (Hanover, 1987), River Forest (River Forest, 1987), Hoffman Estates (Schaumburg, 1987), Cicero (Cicero, 1987), Bedford Park (Stickney, 1987), Rolling Meadows (Palatine, 1988), Hazel Crest (Bremen, 1988), Bartlett (Hanover, 1988), Sauk Village (Bloom, 1988), Sauk Village (Bloom, 1988), Richton Park (Rich, 1988), Lansing (Thornton, 1988), Country Club Hills (Bremen, 1988), South Holland (Thornton, 1989), Skokie (Niles, 1989), Schaumburg (Schaumburg, 1989), Matteson (Rich, 1989), Blue Island (Calumet, 1989), Calumet Park (Calumet, 1989), Hoffman Estates (Barrington, 1989), Chicago Heights (Bloom, 1989), Melrose Park (Proviso, 1989), Northlake (Leyden, 1990), Dixmoor (Thornton, 1990), South Holland (Thornton, 1990), Riverdale (Calumet, 1990), Orland Hills (Orland, 1990), Evanston (Evanston, 1990) and South Holland (Thornton, 1990).

90. Cook County Clerk 2011, *supra* note 26.

91. Cook County Clerk 2011, *supra* note 26; Cook County Clerk 2010, *supra* note 89 (the author computed these absolute changes in Microsoft Excel, using =2011-1990).

92. Cook County Clerk 2011, *supra* note 26; Cook County Clerk 2010, *supra* note 89 (the author computed these percentage changes in Microsoft Excel, using =2011/1990-1).

BREMEN	3	29	26	8.67
CALUMET	3	29	26	8.67
CICERO	1	6	5	5
ELK GROVE*	1	10	9	9
EVANSTON*	2	11	9	4.5
HANOVER*	2	8	6	3
LEMONT	0	7	7	N/A
LEYDEN*	5	49	44	8.8
LYONS	3	34	31	10.33
MAINE*	1	11	10	10
NEW TRIER*	0	0	0	N/A
NILES*	2	26	24	12
NORTHFIELD*	0	4	4	N/A
NORWOOD PARK*	0	0	0	N/A
OAK PARK	1	5	4	4
ORLAND	1	1	0	0
PALATINE*	1	8	7	7
PALOS	0	10	10	N/A
PROVISO	2	54	52	26
RICH	2	33	31	15.5
RIVER FOREST	1	0	-1	-1
RIVERSIDE	0	0	0	N/A
SCHAUMBURG*	2	8	6	3
STICKNEY	1	9	8	8
THORNTON	9	94	85	9.44
WHEELING*	2	24	22	11
WORTH	1	30	29	29

Table 5. Change in the Number of Suburban Cook County Assessed Properties, 1993-2011

COOK COUNTY TOWNSHIPS (*NORTHWEST TOWNSHIPS)	1993/1995 NUMBER OF ASSESSED PROPERTIES⁹³	2010/2011 NUMBER OF ASSESSED PROPERTIES⁹⁴	1993 TO 2011 ABSOLUTE CHANGES IN PROPERTIES⁹⁵	1993 TO 2011 PERCENTAGE CHANGES IN PROPERTIES⁹⁶
BARRINGTON*	6,228	7,787	1559	0.25
BERWYN	15,120	15,659	539	0.04
BLOOM	39,509	41,085	1576	0.04
BREMEN	48,922	52,626	3704	0.08
CALUMET	7,139	7,212	73	0.01
CICERO	17,185	17,308	123	0.01
ELK GROVE*	28,284	33,241	4957	0.18
EVANSTON*	20,407	25,222	4815	0.24
HANOVER*	25,739	34,251	8512	0.33
LEMONT	6,413	9,375	2962	0.46
LEYDEN*	31,955	34,313	2358	0.07
LYONS	39,720	44,540	4820	0.12
MAINE*	49,068	53,108	4040	0.08
NEW TRIER*	22,569	23,217	648	0.03
NILES*	42,660	46,567	3907	0.09
NORTHFIELD*	30,832	35,390	4558	0.15
NORWOOD PARK*	9,416	9,856	440	0.05
OAK PARK	15,852	18,983	3131	0.20
ORLAND	28,903	40,384	11,481	0.40
PALATINE*	36,875	43,048	6173	0.17

93. Cook County Assessor, *supra* note 27.

94. *Id.*

95. *Id.* (the author computed these absolute changes in Microsoft Excel, using =2011-1993).

96. *Id.* (the author computed these percentage changes in Microsoft Excel, using =2011/1993-1).

PALOS	19,803	22,991	3188	0.16
PROVISO	54,855	57,028	2173	0.04
RICH	22,805	30,044	7239	0.32
RIVER FOREST	4,268	4,526	258	0.06
RIVERSIDE	6,269	6,478	209	0.03
SCHAUMBURG*	44,347	47,146	2799	0.06
STICKNEY	14,741	15,242	501	0.03
THORNTON	79,077	78,970	-107	-0.001
WHEELING*	55,146	60,192	5046	0.09
WORTH	59,045	65,039	5994	0.10

Table 6. Correlation Coefficients: TIF Districts, Assessed Properties

COOK COUNTY TOWNSHIPS (*INDICATES NORTHWEST TOWNSHIPS)	RANKING, PERCENTAGE CHANGES IN NUMBER OF TIF DISTRICTS⁹⁷	RANKING, PERCENTAGE CHANGES IN ASSESSED PROPERTIES⁹⁸
BARRINGTON	10	4
BERWYN	17	20
BLOOM	4	18
BREMEN	13	14
CALUMET	13	22
CICERO	17	23
ELK GROVE	10	7
EVANSTON	19	5
HANOVER	21	2
LEYDEN	12	15
LYONS	7	9
MAINE	8	13
NILES	5	11
OAK PARK	20	6
ORLAND	23	1
PALATINE	16	8
PROVISO	2	19
RICH	3	3
RIVER FOREST	24	17
SCHAUMBURG	21	16
STICKNEY	15	21
THORNTON	9	24

97. Cook County Clerk 2011, *supra* note 26; Cook County Clerk 2010, *supra* note 89 (the author computed this ranking in Microsoft Excel, using =RANK(A1, A1:A24)).

98. Cook County Assessor, *supra* note 27 (the author computed this ranking in Microsoft Excel, using =RANK(B1, B1:B24)).

WHEELING	6	12
WORTH	1	10
CORRELATION COEFFICIENT WITH TWO ORDINAL NUMBERS		TIF DISTRICTS, ASSESSED PROPERTIE S (-0.09)⁹⁹

99. Cook County Clerk 2011, *supra* note 26; Cook County Clerk 2010, *supra* note 89; Cook County Assessor, *supra* note 27 (the author computed this correlation coefficient in Microsoft Excel, using =CORREL(A1:A24, B1:B24)).

Table 7. Change in Per Capita Income, Cook County Townships, 1990-2010

COOK COUNTY TOWNSHIPS (*NORTHWEST TOWNSHIPS)	1990 CENSUS, TOWNSHIP PER CAPITA INCOME ¹⁰⁰	2010 CENSUS, TOWNSHIP PER CAPITA INCOME ¹⁰¹	1990 TO 2010 ABSOLUTE CHANGES IN INCOME ¹⁰²	1990 TO 2010 PERCENTAGE CHANGES IN INCOME ¹⁰³
BARRINGTON*	35,428	65,338	29,910	0.84
BERWYN	15,097	20,698	5,601	0.37
BLOOM	13,978	22,953	8,975	0.64
BREMEN	14,042	24,589	10,547	0.75
CALUMET	11,534	19,862	8,328	0.72
CICERO	10,687	14,677	3,990	0.37
ELK GROVE*	19,582	30,438	10,856	0.55
EVANSTON*	22,346	42,651	20,305	0.91
HANOVER*	15,789	28,846	13,057	0.83
LEMONT	18,815	37,423	18,608	0.99
LEYDEN*	15,348	23,783	8,435	0.55
LYONS	19,130	35,539	16,409	0.86
MAINE*	20,028	32,101	12,073	0.60
NEW TRIER*	48,983	83,399	34,416	0.70
NILES*	21,456	34,177	12,721	0.59
NORTHFIELD*	33,789	51,769	17,980	0.53
NORWOOD PARK*	17,139	27,737	10,598	0.62

100. Summary Social, Economic, and Housing Characteristics: Illinois, CENSUS OF POPULATION AND HOUSING (U.S. Dep't of Commerce, U.S. Census Bureau, Economic and Statistics Administration), 1990, at 283-85.

101. 2010 Census Summary File 1, 2010 CENSUS OF POPULATION AND HOUSING (U.S. Dep't of Commerce, U.S. Census Bureau, Economic and Statistics Administration), Sept. 2012, available at <http://www.census.gov/prod/cen2010/doc/sf1.pdf>.

102. Summary Social, Economic, and Housing Characteristics: Illinois, *supra* note 100; 2010 Census Summary File 1, *supra* note 101 (the author computed these absolute changes in Microsoft Excel, using =2010-1990).

103. Summary Social, Economic, and Housing Characteristics: Illinois, *supra* note 100; 2010 Census Summary File 1, *supra* note 101 (the author computed these percentage changes in Microsoft Excel, using =2010/1990-1).

OAK PARK	21,269	45,990	24,721	1.16
ORLAND	18,030	35,398	17,368	0.96
PALATINE*	23,223	38,167	14,944	0.64
PALOS	20,865	33,727	12,862	0.62
PROVISO	15,202	25,445	10,243	0.67
RICH	19,168	31,247	12,079	0.63
RIVER FOREST	32,569	66,028	33,459	1.03
RIVERSIDE	21,491	38,771	17,280	0.80
SCHAUMBURG*	19,347	33,108	13,761	0.71
STICKNEY	19,516	21,392	1,876	0.10
THORNTON	13,630	20,867	7,237	0.53
WHEELING*	21,049	35,937	14,888	0.71
WORTH	15,688	26,812	11,124	0.71

Table 8. Change in Estimated Population, Cook County Townships, 1990-2010

COOK COUNTY TOWNSHIPS (*NORTHWEST TOWNSHIPS)	1990 CENSUS, ESTIMATED TOWNSHIP POPULATION ¹⁰⁴	2010 CENSUS, ESTIMATED TOWNSHIP POPULATION ¹⁰⁵	1990 TO 2010 ABSOLUTE CHANGES IN POPULATION ^{N¹⁰⁶}	1990 TO 2010 PERCENTAGE CHANGES IN POPULATION ^{N¹⁰⁷}
BARRINGTON*	13,034	15,636	2,602	0.20
BERWYN	45,426	56,657	11,231	0.25
BLOOM	95,029	90,922	-4,107	-0.04
BREMEN	107,803	110,118	2,315	0.02
CALUMET	21,000	20,777	-223	-0.01
CICERO	67,436	83,891	16,455	0.24
ELK GROVE*	87,857	92,905	5,048	0.06
EVANSTON*	73,233	74,486	1,253	0.02
HANOVER*	62,308	99,538	37,230	0.60
LEMONT	7,359	21,113	13,754	1.86
LEYDEN*	89,142	92,890	3,748	0.04
LYONS	104,981	111,688	6,707	0.06
MAINE*	128,837	135,772	6,935	0.05
NEW TRIER*	54,705	55,424	719	0.01
NILES*	96,412	105,882	9,470	0.10
NORTHFIELD*	78,186	85,102	6,916	0.09
NORWOOD PARK*	25,600	26,385	785	0.03
OAK PARK	53,648	51,878	-1770	-0.03

104. Illinois: 2000, Population and Housing Unit Counts, 2000 CENSUS OF POPULATION AND HOUSING (U.S. Dep't of Commerce, U.S. Census Bureau, Economic and Statistics Administration), Oct. 2013, at 12-14.

105. Illinois Counties and Incorporated Municipalities, *supra* note 71.

106. Illinois: 2000, Population and Housing Unit Counts, *supra* note 104; Illinois Counties and Incorporated Municipalities, *supra* note 71 (the author computed these absolute changes in Microsoft Excel, using =2010-1990).

107. Illinois: 2000, Population and Housing Unit Counts, *supra* note 104; Illinois Counties and Incorporated Municipalities, *supra* note 71 (the author computed these percentage changes in Microsoft Excel, using =2010/1990-1).

ORLAND	69,542	97,558	28,016	0.40
PALATINE*	103,273	112,994	9,721	0.09
PALOS	50,916	54,615	3,699	0.07
PROVISO	152,443	151,704	-739	-0.01
RICH	61,458	76,727	15,269	0.25
RIVER FOREST	8,538	11,172	2,634	0.31
RIVERSIDE	15,520	15,594	74	0.01
SCHAUMBURG*	127,625	131,288	3,663	0.03
STICKNEY	37,297	40,772	3,475	0.09
THORNTON	175,896	169,326	-6,570	-0.04
WHEELING*	148,641	153,630	4,989	0.03
WORTH	151,144	152,633	1,489	0.01

Table 9. Correlation Coefficients: TIF Districts, Income and TIF Districts, Population

COOK COUNTY TOWNSHIPS (*INDICATES NORTHWEST TOWNSHIPS)	RANKING, PERCENTAGE CHANGES IN NUMBER OF TIF DISTRICTS¹⁰⁸	RANKING, PERCENTAGE CHANGES IN TOWNSHIP INCOME¹⁰⁹	RANKING, PERCENTAGE CHANGES IN TOWNSHIP POPULATION¹¹⁰
BARRINGTON*	10	6	7
BERWYN	17	22	4
BLOOM	4	14	23
BREMEN	13	8	17
CALUMET	13	9	20
CICERO	17	22	6
ELK GROVE*	10	19	11
EVANSTON*	19	4	17
HANOVER*	21	7	1
LEYDEN*	12	19	14
LYONS	7	5	11
MAINE*	8	17	13
NILES*	5	18	8
OAK PARK	20	1	22
ORLAND	23	3	2
PALATINE*	16	14	9
PROVISO	2	13	20
RICH	3	16	4
RIVER FOREST	24	2	3
SCHAUMBURG*	21	10	15

108. Cook County Clerk 2011, *supra* note 26; Cook County Clerk 2010, *supra* note 89 (the author computed this ranking in Microsoft Excel, using =RANK(A1, A1:A24)).

109. *Summary Social, Economic, and Housing Characteristics: Illinois*, *supra* note 100; *2010 Census Summary File 1*, *supra* note 101 (the author computed this ranking in Microsoft Excel, using =RANK(B1, B1:B24)).

110. Illinois: 2000, Population and Housing Unit Counts, *supra* note 104; Illinois Counties and Incorporated Municipalities, *supra* note 71 (the author computed this ranking in Microsoft Excel, using =RANK(C1, C1:C24)).

STICKNEY	15	24	9
THORNTON	9	21	23
WHEELING*	6	10	15
WORTH	1	10	19
CORRELATION COEFFICIENT WITH TWO ORDINAL NUMBERS		TIF DISTRICTS, INCOME (-0.33)¹¹¹	TIF DISTRICTS, POPULATION (-0.39)¹¹²

111. Cook County Clerk 2011, *supra* note 26; Cook County Clerk 2010, *supra* note 89; *Summary Social, Economic, and Housing Characteristics: Illinois*, *supra* note 100; *2010 Census Summary File 1*, *supra* note 101 (the author computed this correlation coefficient in Microsoft Excel, using =CORREL(A1:A24, B1:B24)).

112. Cook County Clerk 2011, *supra* note 26; Cook County Clerk 2010, *supra* note 89; Illinois: 2000, Population and Housing Unit Counts, *supra* note 104; White, *supra* note 71 (the author computed this correlation coefficient in Microsoft Excel, using =CORREL(A1:A24, C1:C24)).