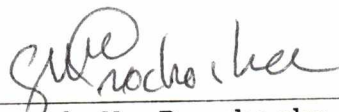


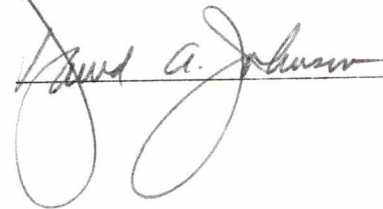
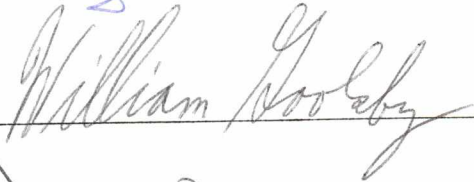
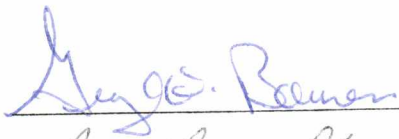
To the Graduate Council:

I am submitting herewith a thesis written by John B. Bunnell entitled "The Influence of Industrial Revenue Bonds on Tennessee's Employment Growth: A Longitudinal Study." I have examined the final copy of this thesis for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Master of Science in Planning.



Joseph M. Prochaska,
Major Professor

We have read this thesis and
recommend its acceptance:



Accepted for the Council:



Vice Provost
and Dean of The Graduate School

THE INFLUENCE OF INDUSTRIAL REVENUE BONDS
ON TENNESSEE'S EMPLOYMENT GROWTH: A LONGITUDINAL STUDY

A Thesis

Presented for the

Master of Science in Planning

Degree

The University of Tennessee, Knoxville

John B. Bunnell

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ABSTRACT

State and local governments turned to tax-exempt industrial revenue bonds (IRBs) as a means of attracting and retaining jobs to their regions during the late 1970s and early 1980s. Although the legislative purpose of IRBs was to create jobs, few evaluative studies on IRB-based job creation exist.

Tennessee's IRB program, like most states, experienced rapid transformations in the amount and type of bonds issued between 1974 and 1982. Manufacturing issues were superseded by nonmanufacturing issues, and the job creation issue assumed new importance as federal and state regulations began affecting how IRBs could be used.

This study examined 841 Tennessee IRBs issued between 1974 and 1982, measuring net job change through examining Unemployment Insurance 202 (UI 202) records maintained by the Tennessee Department of Employment Security using rolling (annually) four year periods. Differences in total employment were measured by four analyses: region, industrial sector, project type, and size, using David Birch's job generation methodology, a standard accepted by most economists and planners. Measurements made were:

1. Net job change between years 0 and 3;
2. Capital utilization measuring net job change against total IRB dollars for sectorial, project and size analyses;
3. Shift-share measurements of statewide manufacturing and nonmanufacturing net job change

compared with IRB totals.

Manufacturing issues accounted for a larger share of Tennessee's net manufacturing job change. Nonmanufacturing issues had significantly lower shares of statewide net job change, suggesting IRBs produce proportionally more jobs in heavy industry as opposed to service and trade businesses.

Nearly 45 percent of all IRB financed net job change occurred in expansions of existing firms, and most job change occurred in establishments employing between 20 and 99 persons. Establishments employing 200-499 persons created more jobs per IRB dollar than smaller or larger establishments.

Durable manufacturers created more jobs per IRB dollar than other industrial sectors, followed by distribution. Although trade and service jobs are revolutionizing the state and national economy, their job creation ability is mixed. Many retailers studied reduced full-time employment four years after receiving IRB approval. Comparatively, durable employers tended to retain jobs, although their growth rates were slower than trade and service firms. New entries, firms entering Tennessee for the first time, held a slight margin over new projects in the project category.

Given these findings, Tennessee is best served by a manufacturing and export-oriented IRB policy. This policy should address the needs of existing firms while making affordable office and shop space for small businesses.

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CHAPTER 1

INTRODUCTION

Tax-exempt industrial revenue bonds (IRBs) have been used by many state and local governments to attract or create jobs. State and federal policymakers and other critics disagree as to whether IRBs (a) actually create jobs and/or (b) adversely affect federal tax revenues.

In Tennessee, industrial development authorities may issue general obligation bonds (GOs) or IRBs to finance capital improvements.¹ Industrial revenue bonds differ from GOs in that IRB projects are entirely backed by the project's revenues. General obligation bonds are backed by project revenues and the local government body's full faith and credit. If a GO project defaulted, the local government would have to pay investors since it guaranteed the debt. Since IRBs do not require full faith and credit, bond authorities issue mostly IRBs.

Since IRBs cost local governments nothing, their use grew, especially during the late 1970s. Between 1974 and 1982, 940 Tennessee projects received \$1,571,872,000 in IRBs.² During 1974, 22 Tennessee counties issued IRBs

¹Tenn. Code Ann. § 7-53-102 (West 1984).

²Tenn. Code Ann. § 7-53-102 (West 1984). Industrial Development Corporation data derived from Tennessee
(Footnote Continued)

totaling \$75.8 million, 89 percent of which went to manufacturing projects: by 1982, 67 counties issued \$639.1 million, and the manufacturing share dropped to 31 percent.³

How do IRBs operate? As financial instruments, IRBs are like bank loans. Private investors risk their money by lending it to developers for financing capital improvements, usually constructing or expanding a plant site. While developers receive affordable financing rates for their projects, the investors receive tax-free interest income, since IRBs are exempt from federal and state income taxes. Generally high-income investors are willing purchasers.⁴

Industrial development authorities must approve all issues so investors can receive the federal tax deduction. Following approval, they usually retain title to the project site until the IRB recipient satisfies the debt. Some bond packages permit the industrial development authority to act

(Footnote Continued)

Department of Economic and Community Development (hereafter TECD), Industrial Development Division, State of Tennessee Revenue Bonds Issued by Municipalities and/or Counties (Nashville: TECD, 1984), 72 p. (unpaged).

³William F. Fox, David S. Kidwell, and Charles A. Campbell, Maximizing Economic Growth with Industrial Revenue Bonds (Knoxville: Center for Business and Economic Research, University of Tennessee, 1984), p. 5.

⁴David S. Kidwell and Richard L. Peterson, Financial Institutions, Markets, and Money (Hinsdale, Ill.: The Dryden Press 1981), p. 76.

as a landlord, with the bond recipient as a lease-paying tenant.

Who benefits and who pays for IRBs? Since the 1950s, Federal policymakers have opposed the IRB tax deduction. Studies by the Congressional Budget Office (CBO) and the Library of Congress found IRBs cost the U.S. Treasury \$1.33 for every \$1.00 lost in revenues, or about \$8 billion annually.⁵ Increased road and utility (infrastructure) costs may offset employment gains, especially if the site requires extensive public improvements.

As long as IRBs remained free, unrationed goods, state and local governments could avoid these questions. Conditions changed in 1984, when Congress enacted the Deficit Reduction Act (DEFRA). Each state received a credit limit of \$150 per capita.⁶ With "caps," state governments enacted various allocation plans to manage their dwindling bond supplies, and job generation emerged as a new criteria for determining IRB eligibility.

⁵ Congressional Budget Office, Small Issue Industrial Revenue Bonds (Washington, D.C.: Government Printing Office, 1981), p. 2; and Dennis Zimmerman, Limiting the Growth of Tax-Exempt Industrial Development Bonds (Washington, D.C.: Government Printing Office/Congressional Research Service, Report No. 84-37E, 1984), p. 16.

⁶ Tennessee Department of Economic and Community Development (hereafter TECD), Allocation Plan for Industrial Development Bonds in Tennessee 1984-85 (Nashville: TECD, 1984), p. 4. (hereafter "Allocation Plan/1984").

Ironically, few studies on IRB job generation exist. Employment growth, after all, is what IRBs were designed to promote. Federal and state legislation on the subject encourages their use to increase the quantity and quality of jobs. Most evaluative literature addresses (1) whether IRBs influence business investment decisions and/or (2) to what extent IRBs reduce federal revenues.

Measuring job generation allows decisionmakers to study regional, industry, and size differences in firms. Industries respond capital and create jobs at different rates, as Birch and others have noted.⁷ For example, 67 percent of the nation's net new jobs between 1969-76 were created by very small firms employing less than 20 persons.⁸ Very large firms employing over 500 persons actually lost jobs.

This study examines the job generating impact of IRBs issued between 1974 and 1982 on Tennessee's employment net change. Each project was measured for a four-year period to determine employment growth level per firm. The dependent variable was the presence, or absence of IRB financing. The terms "project year" and "evaluation period" are interchangeable, and relate to one of this study's nine

⁷David L. Birch, The Job Generation Process (Cambridge, Ma.: MIT Program on Neighborhood and Regional Change, 1979), p. 31.

⁸Ibid., p. 7.

project years; i.e., project year 1974 covers 1974-77, 1975 covers 1975-78, etc. The author measured employment patterns using the Tennessee Department of Employment Security's unemployment insurance computer records, also known as the UI 202 series. He sorted 841 IRB projects approved during the study period four ways:

(1) Regional sorting, which analyzes the difference between IRB-financed net job change and total job change for Tennessee's three **grand divisions** and four **regional clusters**: the state's four central cities (exceeding 200,000 in 1980 population), suburbs (23 counties included in metropolitan standard areas also called MSAs, by the U.S. Bureau of the Census), ruburbs or small cities (15 non-MSA counties with cities over 10,000 in 1980 population), and 53 rural counties.

(2) Industrial sector (sectorial) sorting, which measures IRB-financed net job change against statewide performance in manufacturing and nonmanufacturing areas. Chapter 4 provides IRB-attributable shares of state net job change in these areas.

(3) Project sorting, analyzing employment change by **corporate affiliation**-- whether the firm is independent or a branch of another company; and by **project type**: new projects, expansions of existing projects, new entries by companies to Tennessee, in-migration of businesses within Tennessee, and shrinkage/net job loss.

(4) Size sorting, using five clusters: very small (1-19 employees), small (20-99 employees), medium (100-199 employees), large (200-499 employees) and very large (over 500 employees).

Sectorial, project, and size sorts measure how well IRB recipients use capital to create jobs. Two cautions should be noted when studying these findings in Chapter 4. First, the study sample frame is quite small until project year 1979, so findings may not be meaningful. Second, readers might misinterpret high capital/job figures as inefficient

uses of IRBs, yet in some cases the jobs created may be higher paying jobs with higher spinoff effects for the community.

Finally, readers should distinguish between labor-intensive and capital-intensive industries. The quality of jobs a firm creates is as important as the quantity of employment. Labor-intensive industries tend to employ more people than capital-intensive industries, yet a low-wage, low-skill area is less likely to attract firms demanding highly-trained personnel. Low-wage areas tend to suffer chronic unemployment as labor-intensive firms find even cheaper labor markets. Lacking capital-intensive businesses, low-wage regions often lack funds to aid expanding or new firms.

As Chapter 1 defined an IRB, Chapter 2 describes its evolution through the 1986 Tax Reform Act, and examines previous IRB studies. Chapter 3 discusses the job creation process and recent Tennessee employment trends. Chapter 4 reveals regional, sectoral, project, and size patterns from analyzing the IRB database, and Chapter 5 suggests directions for future job generation research.

CHAPTER 2

PRIVATE INDUSTRY, PUBLIC SUBSIDIES

Since antiquity, governments have attempted to influence economic development by offering business incentives ranging from protective tariffs for "infant industries," to tax incentives such as IRBs. Economists have long argued whether these programs actually influence investment behavior, and many studies suggest incentives play at best a secondary effect on location decisions.

Although this study examines the job generating influence of IRBs on Tennessee employment, some examination of the origin and development of tax incentives is necessary for readers to understand how IRBs operate in the marketplace. First, the chapter discusses the history and function of IRBs and tax incentives. Second, aspects of the IRB controversy are discussed. Third, the chapter traces how federal IRB restrictions grew between 1982 and 1986. Finally, previous IRB research is examined.

A. IRBs and Municipal Finance: History and Function

Early U.S. Economic Development Activities

Private investments have enjoyed public subsidies in varying forms since English colonization. Beginning in 1662, Virginia's colonial government granted five pounds of

tobacco for every yard of woolen cloth colonists produced.⁹ Economic development plans were proposed to Congress in the 1790s and early 1800s by Federalist Alexander Hamilton and Republican Albert Gallatin. Hamilton's plan encouraged manufacturing through: (1) assuming and paying Revolutionary-era debts incurred by the colonies, (2) establishing a national bank, and (3) levying tariffs to protect native industries.¹⁰

Gallatin's Report on Roads and Canals, submitted to Congress in 1808, differed from Hamilton's by proposing an extensive national road and canal system, financed through tariffs.¹¹ Agricultural interests, objecting to high import duties, scuttled the plan. However, Jefferson's Republicans were already shaping the nation's development through the 1785 Land Ordinance, which allocated portions of public land sales for schools and other public purposes, and emphasized decentralized, agricultural communities.¹²

⁹Emory Q. Hawk, Economic History of the United States (New York: Prentice-Hall, Inc., 1st ed., 1934), p. 105.

¹⁰Chester W. Wright, Economic History of the United States (New York: McGraw-Hill, 2d ed., 1949), pp. 208-13.

¹¹Herman E. Krooss, American Economic Development: The Progress of a Business Civilization (Engelwood Cliffs, N.J.: Prentice-Hall, Inc., 2d ed. 1966), p. 288.

¹²John W. Reys, The Making of Frontier America (New York: Mc Graw-Hill, 1965), p. 216.

Although Congress adopted Hamilton's National Bank and constructed and maintained Gallatin's National Road, it ultimately ended Federal involvement in both enterprises. President Andrew Jackson removed Federal funds from the National Bank in 1833 and Congress denied the Bank's recharter. The bank folded in 1836, prompting a national depression.¹³ Congress ceased funding the National Road in 1852, after 40 years of construction and 500 miles it "expir[ed] in the mud."¹⁴ Competing state and city governments filled the void by financing canals and roads, and guaranteed many railroad bonds during the late 1800s to aid westward expansion.¹⁵

Public Purpose Doctrine

Poor economic conditions, following the Panic of 1873, however, caused state governments to limit grants of public credit to private corporations for nearly 50 years. State constitutions were drafted to include "credit" or "public purpose" clauses which expressly forbade granting direct economic assistance to companies or private individuals without express permission of the legislature or the people

¹³Krooss (1966), p. 228.

¹⁴Stanley Lebergott, The Americans: An Economic Record (New York: W.W. Norton & Co., Inc., 1984), p. 104.

¹⁵Ibid., p. 104. Lebergott reports that Nashville built its own railroad to Louisville to keep up with other cities. Cincinnati also built a railroad, ultimately extending to Chattanooga.

through referenda. Tennessee's 1871 constitution reflected this view:

The credit of no County, City or Town shall be given or loaned to in aid of any person, company, association or corporation, except upon an election to be held by the qualified voters of such County, City or Town, and the assent of three-fourths of the votes cast at said election.¹⁶

Article II, section 33 prohibited state agencies from selling railroad bonds if the recipient previously defaulted.

Article XI, section 8 of the state's constitution prohibits the General Assembly from "...suspend[ing] any general law for the benefit of any particular individual, nor to pass any law for the benefit of individuals inconsistent with the general laws of the land."

Although Tennessee's credit limitations were relatively mild compared to other states, the General Assembly avoided giving businesses subsidies. Seeking to impress Vanderbilt land scouts, the legislature named Unicoi County's seat Vanderbilt in 1875.¹⁷ Tennessee's Supreme Court twice upheld the state's credit clause against municipal subsidies for manufacturers between 1925 and 1950. A private act authorizing GO financing for a Lebanon textile mill was in-

¹⁶Tenn. Const., Art. II, § 29.

¹⁷Tom Siler, "From Greasy Cove to Erwin." Knoxville News-Sentinel, 32,026 (November 2, 1985), p. F-4.

validated, since it circumvented the Article II, Section 29 requirements for local referendum approval.¹⁸ A Lexington city ordinance failed for similar reasons 24 years later.¹⁹

Mississippi's "BAWI" Program: The Rules Change

Mississippi's "Balance Agriculture with Industry" program, announced in 1936, eroded the public purpose doctrine, as more private uses for municipal bonds became legitimate "public purposes" through statutory and legal interpretations. Mississippi Governor Hugh L. White's efforts to attract a garment manufacturer to his hometown, Columbia, prompted other Mississippi communities to appropriate industrial recruitment funds.²⁰ Since many communities lacked resources for successful industrial recruitment, the legislature established the nation's first industrial development agency. Support for this concept grew rapidly after an overall manufacturer left a town upon receiving a location bounty.²¹ Both White and the legislature felt attracting industrial prospects would

¹⁸Ferrell v Doak, 152 Tenn. 88, 275 S.W. 29 (1925).

¹⁹Azbill v. Lexington Mfg. Co., 188 Tenn. 477, 221 S.W. 2d 522 (Tenn. 1949) (municipality cannot spend tax money to erect ind'l building without voter's 3/4 approval).

²⁰Alfred S. Eichner, State Development Agencies and Employment Expansion (Ann Arbor, Mi.: Institute of Labor and Industrial Relations, University of Michigan/Wayne State University, 1970), p. 18.

²¹Ibid., p. 18.

increase the state's median family incomes, then 41 percent of the national average.²²

The BAWI plan required local governments to submit tax subsidy requests to the Mississippi Agricultural and Industrial Board, which reviewed businesses' financial stability, whether sufficient natural resources and labor existed to support the proposed plant, and whether the project promoted state objectives.²³ By 1940, 12 plants had relocated in Mississippi using BAWI bonds, mainly textile firms; but 37 percent of the new jobs were non-textile, notably Vicksburg's Armstrong Tire plant and Pascagoula's Ingalls Shipbuilding Corporation (later a Litton Industries subsidiary and major Navy contractor).²⁴

Until the late 1950s, most bond financing, such as Mississippi's BAWI program, used general obligation (GO) financing. As noted in Chapter 1, GO financing commits the issuing community to guarantee investors dividends if a recipient defaulted. These instruments, upheld in Albritton v. City of Winona, 181 Miss. 75, 178 So. 799, appeal dismissed, 303 U.S. 627 (1938), were called industrial

²²Bureau of Economic Analysis, U.S. Department of Commerce, Survey of Current Business, (August 1949), p. 15.

²³Miss. Code Ann. § 57-1-19 (Harrison 1972) (previously Miss. Code Ann. § 8936-07 (Harrison 1956)). The original statute expired in 1940, but was reenacted in 1944, 1944 Miss Gen. Laws, ch. 241 § 8.

²⁴Eichner (1970), p. 19.

development bonds.²⁵ The first BAWI bonds were considered outright subsidies by many observers, since the issuing communities required minimal rent from bond recipients, and long leases.²⁶ Industries received additional savings since BAWI-financed property was exempt from state and local property taxes. Further, BAWI bonds were issued at lower interest rates than conventionally financed projects. However, BAWI failed to spread credit risks to all issuing communities. Such risks tended to discourage smaller, poorer towns from participating in the program.²⁷

Despite these risks, GO financing of private projects spread to five southern states and North Dakota by 1963.²⁸ Tennessee adopted GO financing for private projects in 1951 under the Industrial Building Bond Act, following an unusual, constitutionally dubious interlude.²⁹

"Memorial" Financing

Tennessee's legislators watched Mississippi's program

²⁵Rollison (1976), pp. 4-8.

²⁶David E. Pinsky, "State Constitutional Limitations on Public Industrial Financing: An Historical and Economic Approach." 111 U. Pa. L.Rev. 265, at 267 (1963).

²⁷Id. at 268.

²⁸H. Clyde Reeves, Jr. (dir). Industrial Development Bond Financing (Washington, D.C.: Advisory Commission on Intergovernmental Relations/Government Printing Office, 1963), p. 27.

²⁹Tenn Code Ann. § 7-3-101, et seq. (West 1984).

and began issuing "memorials" during the 1930s and 1940s to attract and retain shoe and textile factories.³⁰ Ostensibly honoring "fallen heroes" of past wars, the memorial program granted property tax holidays to manufacturers, particularly the Jarman Shoe Co.³¹ Public facilities would in some cases be located in memorial-financed projects, named after a war hero. Unlike the private acts dismissed in Ferrell v. Doak and Azbill v. Lexington Mfg. Co., these resolutions never authorized GO bond financing, thus avoiding the public purpose barrier. One example, Jarman Shoe Company's McMinnville plant housed Warren County's Sheriff Department for a time to qualify for memorial status.³² Interestingly, memorial financing cases never reached the appellate stage in Tennessee courts.³³

Revenue Bond Financing Emerges

Nonbinding bond issues emerged during the 1950s as more state legislatures and courts broadened their public purpose

³⁰Personal interview with Fred Travis, NewsTenn, Inc., April 23, 1983.

³¹Ibid.

³²Ibid.

³³Travis could not recall any instances of memorial-induced litigation, however he noted that the fear of litigation contributed to passage of Tennessee's Industrial Development Corporation Act in 1955. The author could not find any reported memorial cases in Southwestern Reporter, original or second series.

doctrines. Although municipal securities were traditionally exempt from federal and most state income taxation, the U.S. Treasury Department did not specifically exempt IRBs until 1954, after a series of favorable state and federal court interpretations.³⁴

An industrial building bond case, Holly v. City of Elizabethton, 193 Tenn. 46, 241 S.W. 2d 1001 (1951), expanded the state's public purpose doctrine. Holly, a resident of Elizabethton, and others challenged the city's granting \$4,000,000 in general obligation bonds for purchasing and constructing a plant site, which was ultimately leased by North American Rayon, Inc (later Textron Corporation). Supporting the city's action, the state's Supreme Court held:

There is nothing in the [state] Constitution which forbids our Legislature from authorizing a municipality to promote a private industry in the manner authorized. . . Therefore, for emphasis, as in Nichol v. Mayor and Aldermen of Nashville, 28 Tenn. 252, and City of Memphis v. Memphis Gayoso Gas Co., 56 Tenn. 530, 538, "it may be asked, is there any

³⁴Rev. Rul 54-106 Cum. Bull. 1954-1 at 28. See also I.R.C. § 103 (C)(1) (1984), which defines municipal bond exemptions. Bryant v. Commissioner, 111 F.2d 9 (9th Cir. 1940), established exemptions for interest earned on general obligation bonds. A Kentucky case, Dyche v. City of London, 288 S.W. 2d 648 (Ky. 1956), liberally construed Kentucky's credit clause in favor of a municipal borrowing statute. These cases influenced the I.R.S. to grant the IRB exemption.

wrong in this? Is there anything against law in this?" Surely not.³⁵

Holly's broad interpretation is reflected in the General Assembly's intent statement for the Industrial Development Corporation Act. The legislature sought to achieve three objectives: (1) increase Tennessee's family incomes to at least the United States average; (2) promote "balanced economic development;" and (3) develop commercial enterprises to promote "present and prospective" gainful employment and general welfare.³⁶

Public purposes under the Act include promoting "industry, trade, commerce, tourism and recreation by inducing industrial, governmental, educational, financial, service, commercial and recreational enterprises to locate in or remain in this state..."³⁷

Additionally, the legislature stated that the Act should be liberally construed.³⁸ Tennessee's Supreme Court upheld this philosophy in Industrial Development Board of Sevier County v. First U.S. Corp., 219 Tenn. 156, 407 S.W. 2d 457 (1966). An IRB-financed Gatlinburg planetarium was

³⁵Holly v. City of Elizabethton, 193 Tenn. 46, 241 S.W. 2d 1001 (1951), at 50, 241 S.W. 2d at 1005.

³⁶1955 Tenn. Public Acts ch. 209 § 3(c), (e), (g).

³⁷Tenn. Code Ann. § 7-53-102(a) (West 1984).

³⁸Tenn. Code Ann. § 7-53-102(b) (West 1984).

found "to promote industry and develop trade to provide against low wages and unemployment."³⁹

The Act authorizes establishment of industrial development corporations, or "boards," subject to State approval. Boards may issue bonds, establish borrowing and repayment guidelines, make business loans, and borrow money as needed to operate.⁴⁰ Until 1984, the state's role in managing its 137 boards was minimal, limited to approving articles of incorporation and registering bonds. Local bond autonomy decreased in 1984, after TECD began rationing IRBs.

Small Issues, Expanded Uses

Most IRBs are sold as "small issues" of \$10 million or less under section 103(B) of the Internal Revenue Code. Small issues, created as a category under the Revenue Expenditure and Control Act of 1968 (RECA), increased rapidly during the 1970s as IRS rulings expanded the category to include offices, restaurants, sports complexes, theme parks and many retail facilities. Ninety-eight percent of Tennessee's IRBs issued in 1983 were small issues, following national trends.⁴¹ Single issues exceeding

³⁹Industrial Development Board of Sevier County v. First U.S. Corp., 219 Tenn. 156, 407 S.W. 2d 457 (1966), at 158, 407 S.W. 2d at 460.

⁴⁰Tenn. Code Ann. § 7-53-302(a)(7), (9), (12) (West 1983).

⁴¹TECD, Allocation Plan for Industrial Development
(Footnote Continued)

\$10 million must serve "quasi-public" purposes, such as constructing wharves, terminals, airports, hospitals, or pollution control facilities.⁴²

Congress passed the small issue exemption expressly to "aid small businesses in locating in a community."⁴³ As originally passed, RECA's small issues were limited to \$5 million, so as to reduce large corporate subsidies. Ten years later, Congress doubled the limit to \$10 million.⁴⁴ Critics of IRBs charged that large corporations benefited the most from RECA's changes. Jay Angoff of Congress Watch, a public interest group, testified in April, 1981 that 53 percent of the nation's IRBs issued between 1965-1977 went to corporations exceeding \$1 billion in annual sales.⁴⁵

(Footnote Continued)

Bonds in Tennessee 1984-1985 (Nashville: TECD, 1984), p. 8. (hereafter "Allocation Plan/1984").

⁴²Robert B. Lamb and Stephen P. Rappaport, Municipal Bonds: The Comprehensive Review of Tax-Exempt Securities and Public Finance (New York: McGraw-Hill, Inc., 1980), pp. 221-3.

⁴³Statement by Rep. Wilbur D. Mills (D-Ar.), Chairman, House Ways and Means Committee, August 26, 1968, reviewing history of IRB legislation, op. cit. in Congressional Budget Office, Small Issue Industrial Revenue Bonds. (Washington, D.C.: Government Printing Office, September 1981): p. 10.

⁴⁴Ibid., p. 11.

⁴⁵"Small-Issue" Industrial Revenue Bonds: Hearings Before the Comm. on Oversight of the Comm. on Ways and Means, U.S. House of Representatives, 97th Cong., 1st Sess., Serial No. 97-14 (hereafter cited as "Rangel Hearings") at 224 (1981) (Statement of Jay Angoff, Congress Watch).

Corporate IRB advocates responded that tax-free financing aided corporate compliance with state and federal environmental guidelines.⁴⁶

Tennessee's small issue activity gained momentum following Small World, Inc. v. Industrial Dev. Bd. of Tullahoma, 231 S.W.2d 507 (Tenn. App. 1976). Tennessee's Circuit Court of Appeals, Middle Division, upheld a chancery court decree dismissing a suit by Tullahoma retailers. The plaintiffs contested Tullahoma's granting IRBs to Merchantile Stores, Inc., to construct a retail store in Northgate Mall. Upholding previous liberal constructions of the Industrial Development Corporation Act, the Court of Appeals stated:

From the liberal construction that the Act demands and the liberal construction which has been given the Act by our previous decisions, this Court is of the opinion that the proposed project fulfills the purpose of the Industrial Bonds Act. Jobs are provided by the retail establishments just as they are provided in the manufacturing process, and service is necessary to a community for its common good. It appears to this Court that the Legislature intended such result.⁴⁷

The court upheld the bond issue, stating the judges should not be required to ". . . adopt the opinions ex-

⁴⁶William Aronson, "The Decline of American Industry," New York Times, 104, 13,585 (August 8, 1982), pp. 2-1, 2.

⁴⁷Small World, Inc. v. Industrial Dev. Bd. of Tullahoma, 553 S.W. 2d 596 (Tenn. App. 1976) at 599 (quoting the lower court).

pressed by the plaintiffs . . . as facts in contradiction of the combined corporate judgment and official acts of the Development Board"48

Four years later, Tennessee's Attorney General determined the state's IRB law permitted boards to finance and own projects "which may be located outside [its] geographic boundaries."49

Upholding Small World, Tennessee's Court of Appeals, Eastern Section in 1981 upheld a Blount County chancellor's decree allowing Knoxville's airport authority to issue IRBs for an on-site hotel.⁵⁰ However, the appellate court rejected the chancery court's denial of standing to the plaintiffs, two Alcoa motels, since they alleged special damages not common to the general public.⁵¹

Another East Tennessee IRB suit was dismissed in February, 1982, because the plaintiffs lacked standing to sue Campbell County's Industrial Development Board.⁵² LaFollette resident R.B. Harness and merchant Robert B.

⁴⁸Id., 553 S.W. 2d at 601.

⁴⁹Limits of Industrial Development Board Authority, Op. No. 116, 9 Op. Tenn. Att'y Gen. 201 (1980).

⁵⁰Airport Inn v. Metropolitan Knoxville Airport Auth., 627 S.W. 2d 949 (Tenn. App. 1981) appeal denied, Tenn. Sup. Ct., Feb. 16, 1982.

⁵¹Id., 627 S.W. 2d at 951.

⁵²Harness v. Industrial Dev. Bd. of Campbell Co., No. 10,871, slip op. (Campbell Co. Ch. Ct. Feb. 24, 1982).

Woodson had sued to block Campbell County's board from granting \$3,500,000 in IRBs to J.J. Chretien Company, K-Mart Corporation's realtor. Harness claimed the bond issue damaged his status as a taxpayer; Woodson claimed the board discriminated against existing merchants. Chancellor Billy Joe White held: (1) Small World authorized the Board to grant K-Mart IRBs; and (2) Woodson was not denied access to IRBs under the Board's rules.⁵³

Appellate judges have generally avoided addressing IRB financing's merits. Deferring to the legislature, Tennessee judges have dismissed Industrial Development Corporation Act challenges on procedural grounds, or affirmed its liberal interpretation, as seen in the Small World and Chretien cases. Tennessee courts have restated, not evaluated, IRB statutes; thus the case law has little evaluative value.

B. Aspects of the IRB Controversy

Between 1974 and 1982, IRB growth in Tennessee and the nation was rapid. Bond financing achieved popularity for three reasons. First, since the IRS rulings had extended tax exemptions to non-guaranteed issues since the 1950s, defaulting IRB recipients posed no credit risk to municipal

⁵³Id., slip op. at 2.

or state bond authorities.⁵⁴ Second, increased inflation and interest rates during the late 1970s made IRBs popular for developers, since bond financing was 55-75% of the prime lending rate.⁵⁵ Third, as previously noted, high-liability taxpayers have tended to be willing bond purchasers.

As IRBs increased in popularity with state and local economic developers, their rapid growth in the generally constricted credit markets during the 1979-1982 period alarmed some economists and many public officials. The Congressional Budget Office (CBO) noted in 1982 that public purpose tax-exempt financing rose only five percent between 1975 and 1982; however, private purpose issues rose 300 percent.⁵⁶

Policy Arguments

Whether IRBs should be used to subsidize private real estate projects remains a contested public policy issue. Proponents usually raise the following four arguments to justify retaining tax-exempt bond financing:

1. Although not initially valuable to a firm, tax-exempt financing figures critically in

⁵⁴Rollison (1976), pp. 4-5.

⁵⁵Lamb and Rappaport, pp. 222, 227. See Congressional Budget Office, Small Issue Industrial Revenue Bonds (Washington, D.C.: Government Printing Office, 1981), p. 26. (hereafter "CBO/1981").

⁵⁶Michael Barker, "Bedtime for Bonds," Politics and Markets (January 30, 1984), p. 2.

the final stages of most investment decisions.⁵⁷

2. IRBs have attracted outside investment to previously distressed urban areas. Older business districts, such as Memphis' Front Street, have⁵⁸ been restored with IRB assistance.
3. As an interest subsidy, IRBs generate more revenue than the opportunity cost figures claimed by Treasury officials. Proponents cite the increased capital investment and jobs created by IRB-financed projects to support this contention.⁵⁹
4. Underfinanced firms have benefited from IRB financing. Proponents support this contention by citing the high failure rate of new, small, independent firms, which Birch and others have found most efficient in generating jobs. If debt risks were reduced for such firms, small business advocates suggest more jobs would be created, since the first four years in business tend to be the most efficient⁶⁰ job creators.

⁵⁷George W. Cregg, Robert E. Lee Garner, and James G. Belch, Industrial Development Bonds and Their Role in Alleviating Unemployment (Chicago: American Industrial Development Council, Inc., 1976), pp. 12-3.

⁵⁸Rangel Hearings at 121-6 (statement of John Dudas, Executive Director, Memphis Center City Commission).

⁵⁹Robert E. Patterson, "Why Industrial Revenue Bonds Must be Saved," Inc. (May 1982), pp. 12, 14. See Roger C. Kormendi and Thomas T. Nagle, The Nature and Effects of Small-Issue Industrial Revenue Bonds (Boston, Ma.: Smaller Business Foundation of America, 1981), p. 55. Kormendi and Nagle attribute \$1.00 in benefits for each \$0.20 lost in federal revenues, contradicting the CBO's 1981 report findings, which cited a \$1.33 loss per \$1.00 of IRB-generated project revenues.

⁶⁰Birch (1979), p. 31.

Opponents of IRB financing dismiss it as either: (1) irrelevant to most business decisions, or (2) if relevant to a firm, then disruptive to both rational investor behavior and municipal credit. Although this study addresses job creation, not investment behavior, these arguments merit brief discussion.

The first view suggests that developers make investment decisions utilizing two steps to determine plant locations. Geographer Melvin Greenhut described these as primary and secondary factors-- primary defined as market factors, central to a project's success.⁶¹ Primary factors generally include: (1) viable markets, (2) skilled labor, (3) affordable capital, (4) accessible transportation network, (5) available raw materials, and (6) dependable energy resources.⁶² The developer selects a site among a number of finalists using secondary factors, including quantitative evaluation of a community's financial incentives and qualitative speculation regarding its physical environment and livability. Financial incentives do not greatly

⁶¹Melvin L. Greenhut, Plant Location in Theory and Practice: The Economics of Space (Chapel Hill, N.C.: University of North Carolina Press, 1956), pp. 102-3.

⁶²E. Willard Miller, Manufacturing, A Study of Industrial Location (University Park, Pa.: Pennsylvania State University Press, 1972), p. 81, op. cit. in Patrick C. Phillips, "Impact of Tax Incentives on Industrial Development in Selected Southeast States," (Masters Thesis, Graduate School of Planning, University of Tennessee, Knoxville, Tennessee, June 1984), p. 36.

influence plant location under this model, popularized by Walter Isard.⁶³

Isard's hypothesis provides a conceptual basis for five arguments usually made against IRB financing:

1. Most businesses consider market and other locational factors before considering government incentives.
2. Surveys of industrial location behavior have found that IRBs and other industrial incentives matter little to most businesses, although many of the survey instruments have posed hypothetical questions to firms, instead of probing the rationale associated with actual plant location decisions.⁶⁴ Either the surveys find IRBs unmeaningful, or the more targeted surveys produce misleading, self-fulfilling results.⁶⁵
3. Financial incentives influence a small number of firms with multistate operations, usually known as "footloose" industries.⁶⁶
4. Small businesses, considered the most efficient job generators by many decisionmakers, rarely use IRBs or other financial incentives. They

⁶³Walter Isard, Location and Space Economy (New York: MIT Press and Wiley-Interscience, 1956).

⁶⁴Margaret E. Dewar, "The Usefulness of Industrial Revenue Bond Projects for State Economic Development: Some Evidence from Massachusetts," Working Paper No. 63 (Cambridge, Ma.: Joint Center for Urban Studies, mimeographed, March 1980), p. 7.

⁶⁵Ibid., p. 9.

⁶⁶Bennett Harrison and Sandra Kanter, "The Political Economy of States' Job Creation Business Incentives," Journal of the American Institute of Planners (October 1978), p. 430.

generally dislike public financing, and rely⁶⁷ instead on conventional or self-financing.

5. Bonds lost their competitive advantage as more states adopted IRB enabling legislation. Small-issue IRB financing was available in 50 state jurisdictions and Washington, D.C. by 1982; the competitive advantage once enjoyed by a select few jurisdictions in recruiting businesses has vanished.⁶⁸

The second view assumes IRBs are potent and disruptive influences on optimal firm location and municipal credit markets. Opponents claim IRBs distort rational firm behavior and constrain government access to credit three ways:

1. Secondary location criteria are often unrealistically inflated by competing government financial packages. Hellman, Falk, and Wassall termed this process a "bidding down" process, producing few winners; with increased IRB placements, communities often find selling public-purpose bonds difficult.⁶⁹
2. Business subsidies incur greater costs than the jobs created or capital investments made.⁷⁰
3. Opponents reject small-issue IRBs as repugnant to traditional notions of public expenditures.

⁶⁷ Birch, Job Creation in Cities (Cambridge, Ma.: MIT Program on Neighborhood and Regional Change, 1980), p. 37.

⁶⁸ CBO, Small Issue Industrial Revenue Bonds, 1980-1981 (Washington, D.C.: Government Printing Office, May 1983), pp. 7-10.

⁶⁹ Daryl A. Hellman, Lawrence H. Falk, Gregory H. Wassall, State Financial Incentives to Industry (Lexington, Ma.: Lexington Books, Inc. 1976), pp. 74, 76-7.

⁷⁰ Dennis Zimmerman, Limiting the Growth of Tax-Exempt Industrial Development Bonds: An Economic Evaluation (Washington, D.C.: Congressional Research Service/Government Printing Office, 1984), pp. 15-6.

Noting the increased retail use of IRBs, John Chapoton, the U.S. Treasury's Assistant Secretary for Tax Policy, found the "nexus between [IRB] issuer[s] and the facility to⁷¹ be financed [in some instances,] tenuous."

Not all participants in the IRB debate have completely negative or positive views; some eclectic positions exist. Economist Michael Kieschnick contends that even if IRBs have no inducing value to industry, they may be valuable to state or municipal governments as an encouraging signal to business, provided no additional financial costs are incurred through granting additional subsidies to the induced firm.⁷²

C. Under the Cap: Federal Limitations on Tax-Free Financing

As the 1980s began, traditional economic development assumptions underlying tax-exempt financing were being challenged at state and national levels. Responding to perceived abuses of IRBs by major corporations, fast food franchisers, and other service-oriented firms, Congress twice limited access to tax-exempt financing. The Reagan

⁷¹Rangel Hearings at 26 (statement of John E. Chapoton, Assistant Secretary for Tax Policy, U.S. Dept. of the Treasury).

⁷²Michael Kieschnick, Taxes and Growth: Business Incentives and Economic Development (Washington, D.C.: Council of State Planning Agencies, 1981), pp. 84-5.

administration sought to eliminate tax deductibility for all municipal bonds in its 1985 tax reform plan.

The short-term effect of these policies was seen by some economists as increasing the relative value of IRBs. The 1984 per capita bond limitations imposed on state governments by Congress were designed to decrease the supply of new tax-exempt funds. The 'caps' tended to centralize state economic development policymaking as state governments assumed a new responsibility-- managing a fixed level of bond authority. A longer-term outlook for IRB financing was more difficult to predict, since Congress had renewed IRB financing, although in limited form, throughout the early 1980s. Further, financing enterprise zone projects through tax-exempt financing enjoys bipartisan support in Congress.⁷³

The Rangel Hearings

Responding to the concerns of many state and federal finance officers and a report featured on CBS television's 60 Minutes, Rep. Charles B. Rangel (D-NY), chairman of the Oversight Subcommittee of the U.S. House Ways and Means Committee, convened a review of the IRB program in April, 1981.

⁷³Rep. Jack Kemp (R-NY), press release, August 16, 1986, p. 2. See also Robert Ajemian, "Moving to the Center," Time, 114, 0.36 (July 16, 1982), p. 24.

Following hearings, Rangel submitted H.R. 4420 on September 9, 1981, which would eliminate IRB financing on December 31, 1983, require registration of all municipal bonds with the Securities and Exchange Commission, mandate public hearings for all industrial development boards, and limit commercial uses to distressed urban neighborhoods.⁷⁴

The Rangel bill's emphasis on targeted urban redevelopment paralleled the Reagan administration's proposal for urban enterprise zones, which would utilize tax credits and regulatory relief to induce businesses to relocate in center city neighborhoods.⁷⁵ However, it conflicted with the Administration's desire to reduce tax expenditures, such as the investment tax credits, deductibility for state and local taxes, and deductibility for interest on municipal bonds. However, most of Rangel's initiative was ultimately incorporated into Congress' 1982 revenue package.

The Tax Equity and Fiscal Responsibility Act of 1982 (TEFRA)

Tax-exempt financing was limited but not eliminated under 1982 tax legislation. As passed, TEFRA set four limitations on IRB users:

⁷⁴Text, H.R. 4420, 97th Cong. 1st Sess., September 8, 1981.

⁷⁵Ronald Reagan, Message to Congress Regarding Enterprise Zone Development, 97th Cong., 2d Sess., printed in Congressional Quarterly, 40, 0.11 (March 27, 1982), p. 705.

1. Tax-exempt bond users could not use the accelerated cost recovery provisions allowed under the 1981 Economic Recovery Tax Act, in an attempt to reduce revenue losses.
2. Small issue IRBs would lose their tax-exempt status after September 30, 1987.
3. Food and entertainment issues were restricted.
4. All industrial development authorities must provide public hearings prior to issuing IRBs, and all municipal bonds must be registered with the Securities and Exchange Commission.⁷⁶

The Deficit Reduction Act of 1984 (DEFRA) and Tax Reform

The rules governing IRBs changed again in 1984. Seeking to reduce federal deficit growth, the 98th Congress enacted 'caps' on the amount of tax-free financing available to states and corporations. Corporations could not exceed \$40 million in small-issue IRBs, and states could not authorize more than \$150 per capita in bond authority for 1985, and no more than \$100 per capita in 1986.⁷⁷ Small issues would lose their tax-exempt status on December 31, 1987.⁷⁸

Seeking to offset a predicted "urban-rural donnybrook" over IRB distribution, Governor Lamar Alexander issued Executive Order No. 31 in August, 1984, delegating the Tennessee Department of Economic and Community Development

⁷⁶John P. Fenner, "IRB Policies and Politics: The Broader Implications," Municipal Finance Journal (Summer 1982), p. 165.

⁷⁷No name given, "Industrial Revenue Bond Criteria Will Stress Manufacturing, Jobs," The Tennessee Journal, 8, 0.37 (September 10, 1984), p. 2.

⁷⁸Ibid., p. 2.

to formulate an IRB allocation plan.⁷⁹ Two months later, TECD announced the plan. Highlights include:

1. The state's bond authority will be allocated in quarterly amounts; 45% before March 31, 50% between April 1-August 31; the remaining 5% will be issued in September.
2. One percent of each bond issue will remain with TECD until December 1 to encourage speedy bond sales. All unsold bond authority reverts to the state if not sold by this date.
3. Should demand exceed bond authority, TECD will use a point-based priority system to reserve bond authority. The system emphasizes manufacturing, warehousing/distribution, and tourist-related facilities.⁸⁰

Deputy Commissioner for Community Development Michael E. McGuire noted the rapid growth in IRB financing with concern. Bonds issued in 1974 totaled \$74 million; 1983's supply totaled \$653.1 million.⁸¹ "We're very near the cap [Congress has imposed on us] already. We'll have difficulty living within the cap if the national economic recovery continues on schedule," McGuire told one public forum.⁸²

⁷⁹M. Lee Smith, "IDBs: The Urban-Rural Competition," Knoxville Journal 119, 0.164 (July 10, 1984), p. A-6. ("donnybrook"). Ken Renner, "State Plans to Allocate Industrial Development Bonds Quarterly," Knoxville Journal 119, 0.189 (August 8, 1984), p. C-14. (Alexander's plan).

⁸⁰Allocation Plan/1984, pp. 15-7.

⁸¹Renner, (August 8, 1984), p. C-14.

⁸²Speech by Dr. Michael E. McGuire, Deputy Commissioner for Community Development, TECD, to East Tennessee Development District monthly meeting, October 6, 1984.

The potential for urban-rural competition is great as the bond supply dwindles. Fifty-six percent of the state's IRBs went to the four urban counties (Shelby, Davidson, Knox, and Hamilton), although they comprise 41% of the state's population.⁸³ In September, 1985, TECD officials estimated the state's \$697 million bond pool would be depleted before the year ended.⁸⁴

Demand for IRBs is great among sectors of Tennessee's economy. Most of the state's 1985 allocation was used for service-related industry, such as hotels, nursing homes, and bank/insurance purposes.⁸⁵ Manufacturing uses stabilized to 28%, but the office (19.6%), retail (10.4%) and service (32.2%) shares suggest manufacturers will continue to face difficulty in obtaining tax-free assistance for their activities.⁸⁶ As the bond market tightens, new questions regarding who generates better jobs in Tennessee will be asked.

Four actions stemming from the Tax Reform Act of 1986 further restricted Tennessee's IRB supply. First, the DEFRA

⁸³Smith, (July 10, 1984), p. A-6.

⁸⁴Lois Reagan Thomas, "Rush is on for State's Dwindling Bond Supply," Knoxville News-Sentinel, 31,996 (September 22, 1985), p. D-1.

⁸⁵Ibid.

⁸⁶Ibid. Interview with Alicia Burgess, TECD, November 14, 1985. Ms. Burgess allocated IRB authority under the allocation plans.

cap was reduced to \$75 per capita for 1986 and 1987, and would fall to \$50 per capita for 1988. Second, pollution control equipment lost its tax exemption. Third, housing activity bonds were included as part of the state's bond authority. Finally, the act eliminated small issue exemptions for nonmanufacturing projects in 1987 and manufacturing in 1990.⁸⁷

It could be said that IRBs had become a victim of their own success. A broadly supported program may have shallow roots: although IRBs had survived the 1981-84 tax bills, reducing the federal budget deficit had higher priority with Congress. The Act represented a departure from traditional tax philosophy. Representative Richard L. Gephardt (D-Mo.), a cosponsor, commented, "We've tried to use the tax code as a means of effecting social justice for numerous purposes, [which have] grown unwieldy. The purposes have undermined the system's basic principles: equity, efficiency, and progressivity."⁸⁸

"They're cutting off our lifeblood," said Richard Geltman of the National Governors Association.⁸⁹ "They've

⁸⁷TECD, Allocation Plan for Private Activity Bonds in Tennessee (Nashville, TECD: 1987), p 2.

⁸⁸Rep. Richard L. Gephardt (D-Mo), interview, Cable News Network, November 12, 1985.

⁸⁹Richard Geltman, Intergovernmental Affairs Director, National Governors Association. February 17, 1985, telephone interview.

[Congress and the Administration] gutted every conceivable economic development program on the board. If bonds go, we don't have too much left to talk about with [industrial prospects]."90

Perhaps IRBs will re-emerge as part of an enterprise zone package. As noted, the Reagan and Kemp bills incorporate IRB financing; both political parties have expressed desires to improve distressed areas with new jobs. While this study measures past IRB projects, the lessons learned here could apply to future incentive programs.

D. Previous Research Efforts

Most IRB research measured revenue gains or losses to state and Federal governments. Seven studies have addressed the impact of IRB financed investment on job creation. Table 2-1 provides general information on each study.

Hellman, Falk, and Wassall examined over 30 IRBs issued by Massachusetts industrial development authorities between 1967-1973, using six efficiency criteria to measure job creation.⁹¹ These included capitalized value per new employee, the industry's growth potential as determined by

⁹⁰Ibid.

⁹¹Hellman, Falk, and Wassall (1976), pp. 49-63.

TABLE 2-1
INDUSTRIAL REVENUE BOND-RELATED
JOB CREATION RESEARCH: 1976-1984

<u>Research/Area</u>	<u>Methodology(ies)</u>	<u>Impact</u>
Hellman, Falk, Wassall (1967-73) Massachusetts 1976	Capitalized value per new employee, industry growth potential, amount of capital formation, average wage rate of production workers, percentage of blue collar workers, labor/capital intensive	Little on employment, some on increased productivity
Gump & Russo (1975-79) Ohio 1981	Total number of new jobs, full/part-time distinctions and wage/skill labor market analysis; capital spending per new employee; IRB and investment rationale survey of employers	Increased employment in 39 of 40 cases; no conclusions on IRB value to firm
New Jersey Economic Development Authority (1980) New Jersey 1981	New permanent jobs, divided into total IRB dollar amount for calendar year 1980	1,613 jobs created, 30.9 jobs per \$1M in IRBs
Downey (1966-81) Knox County, Tennessee 1981	Impact on property value; multiplier of 1.4 jobs per each IRB financed employee; descriptive data on firm and employee compensation using Employment Security UI 202 database	6,015 jobs created, 8,421 Knox County jobs affected by IRBs
Pascarella & Raymond (1974-78) Ohio 1982	Summed state per capita/county IRB usage correlating to changes in Ohio's unemployment rate; job skill/market demand analysis done for Akron and Cleveland only	Not valuable tool in hiring hardcore unemployed or battling recessionary unemployment

TABLE 2-1
(Continued)

Research/Area	Methodology(ies)	Impact
Ture (1961-83) New York 1983	Analysis of projected versus actual employment for 855 responding firms from 1,057-member Job Development Authority loans, similar to IRBs, questionnaire	21,023 jobs created, or 38% gain in employment over application level
McDonald (1977-81) Chicago, Illinois 1984	Econometric model construction, estimating firm demand for labor before and after project approval, sample of 210 Chicago IRB recipients	67.145 jobs created per firm, 34.3% mean increase; but truncated sample bias in selection

the Bureau of Economic Analysis (U.S. Department of Commerce), amount of capital spent and the rate of capital formation per job, average wage rate of production workers, the percentage of blue collar workers versus white collar workers, and whether the activity was labor or capital-intensive-- from the value added per dollar of production.⁹² Respondents tended to use IRBs to increase capital investments; employee levels for most firms remained stable or dropped.

Ohio's IRB program was the subject of two job creation effectiveness studies. Gump and Russo evaluated in 1980 bonds issued through Ohio's Development Financing Commission (ODFC). The research team traced 41 ODFC-financed projects issued between 1975-1979, and found that 40 increased employment and one remained stable.⁹³

Pascarella and Raymond questioned these results in a 1974-1978 analysis of bonds issued in Cuyahoga (Cleveland) and Summit (Akron) Counties. The researchers correlated county-level bond usage with changes in the state and regional unemployment rates, and concluded IRBs were

⁹²Ibid., pp. 53-7.

⁹³W. Michael Gump and Phillip A. Russo, The Impact of Industrial Revenue Bonds on Job Creation and Economic Development (Columbus, Oh.: ODFC; September 1980), p. 30.

insignificant in reducing unemployment during economic recessions.

Despite proponents' claims, Pascarella and Raymond found IRBs were not a countercyclical tool in battling unemployment. Bond use decreased during recessions, and bond use increased during expansions in the nation's business cycle.⁹⁴ Further, Cleveland and Akron's IRB financed jobs poorly matched available labor market skills.⁹⁵

Although Gump and Russo's work provided useful demographic data on the kinds of industrial sectors (at the three-digit Standard Industrial Classification [SIC] aggregation) benefiting from IRB financing, and the types of jobs and wage levels resulting from the investments, their attempts at calculating capital investment efficiencies per worker are not meaningful. The authors themselves warned readers against drawing conclusions from their capital measurements.⁹⁶

Survey research methods have addressed whether IRBs influenced location decisions. Economist Norman B. Ture

⁹⁴Thomas A. Pascarella and Richard D. Raymond, "Buying Bonds for Business: An Evaluation of the Industrial Revenue Bond Program," Urban Affairs Quarterly (September 1982), pp. 69-73.

⁹⁵Ibid., pp. 82-3.

⁹⁶Gump and Russo (1980), p. 29.

relied on questionnaires sent to 1,057 New York Job Development Authority (JDA) recipients. Ture's analysis claimed that IRBs had played crucial roles for financing many smaller firms, contrary to U.S. Treasury and Congressional Budget Office findings.⁹⁷ Gump and Russo also mailed surveys to their 41 respondents. Unlike Ture, Gump and Russo cautioned against concluding IRBs significantly influenced location decisions.⁹⁸

Indeed, a 'self-fulfilling' prophecy limits meaningful analysis for many IRB surveys. Either the sponsor, usually a state development agency, often has a predetermined result in mind, or the respondents did not participate in the activities leading to the investment decision.⁹⁹

Predetermined results affected the validity of McDonald's otherwise rigorous econometric assessment of 69 IRBs issued between 1977-1981 by Chicago's economic development authority. Although McDonald found a mean employment increase of 67.145 employees and a 34.3 percent

⁹⁷Norman B. Ture, Industrial Revenue Bonds: Estimates of Employment Effects and Size of Benefitting Companies (Albany, N.Y.: New York State Economic Development Council, Inc.; September 1983), p. 7.

⁹⁸Gump and Russo (1980), pp. 22-4.

⁹⁹Margaret E. Dewar, "The Usefulness of Industrial Revenue Bond Projects for State Economic Development: Some Evidence from Massachusetts," Working Paper No. 63 (Cambridge, Ma.: Joint Center for Urban Studies, mimeographed, March 1980), p. 7.

mean growth rate for Chicago IRB recipients, he warned that his study lacked randomness, since the sample was deliberately selected from a larger universe by the city's economic development personnel.¹⁰⁰

Downey relied on more demographic and descriptive methods in analyzing IRBs issued by Knox County between 1966 and August, 1981. Data sources included the Tennessee Department of Employment Security's Unemployment Insurance (UI) 202 series and property tax assessments for bond recipient parcels before the bond issue and afterward. The median-sized IRB recipient employed 154.2 employees.¹⁰¹ Downey estimated 6,015 direct and 8,421 indirect jobs were created, using industry multipliers based upon recipients' estimated share of Knox County's labor force.¹⁰² "Greater efficiencies exist . . . in encouraging office-related issues," Downey concluded.¹⁰³

New Jersey's Economic Development Authority claimed that 1,613 new jobs were created between 1974 and 1980 under

¹⁰⁰John F. McDonald, "An Economic Analysis of Industrial Revenue Bonds and the Demand for Labor," The Annals of Regional Science (March 1984), pp. 39-51.

¹⁰¹J. Sidney Downey, "Knox County Industrial Revenue Bond Analysis: 1966-1981," (Unpublished report; prepared for the Greater Knoxville Chamber of Commerce; Knoxville, Tennessee; September 1981), p. 7.

¹⁰²Ibid., p. 31.

¹⁰³Ibid., p. 38.

the state's industrial financing program, corresponding to 30.0 jobs per \$1 million in IRBs sold.¹⁰⁴ One finds extensive job/dollar evaluations in IRB proponents' testimony, but limited meaningfulness. These claims rarely stipulate what type of jobs were created, or what kind of wages were generated.

Increasing the supply of good-paying jobs is a stated goal for many state economic development programs, and measuring program effectiveness by job creation is accepted practice by state and national policymakers. However, this chapter has shown that most studies evaluating job creation for IRB financed firms have little value, due to limited and sometimes meaningless data, lean research budgets, and little understanding of the job creation process.

Understanding that process requires examining how jobs have been created in Tennessee, and to what extent small, independent firms play in relation to larger, more established corporations. Chapter 3 examines these issues.

¹⁰⁴Anthony J. Cuccia (exec. dir.) 1980 Annual Report of the New Jersey Economic Development Authority (Trenton, N.J.: NJEDA, 1981), p. 4.

CHAPTER 3

TENNESSEE'S BOND USAGE AND PATTERNS OF JOB CREATION IN PRIVATE INDUSTRY

A. Bonds and Jobs: A Dilemma

Three considerations prompted Governor Alexander to ration the state's bond authority in 1984: rapid growth and demand for IRB financing, a shift to non-manufacturing uses, and avoiding urban-rural conflicts over the state bond supply, as noted previously. It is not enough to examine these trends in isolation.

Bond demands respond to market forces, and the changing Tennessee labor market deserves examination. Some trends suggest the state is moving into a high-technology era with Nissan's robot-guided assembly lines and Alcoa's cold rolling aluminum mill. Yet 51 Tennessee counties lost 100 or more manufacturing jobs between 1977 and 1983.¹⁰⁵ Further, 81,000 Tennesseans lost their jobs between 1978 and 1985 from plant closings or staff reductions.¹⁰⁶ Among the closed plants were several IRB recipients. Memphis' International Harvester never recovered from the 1979-83 recession despite an IRB and a 1983 Urban Development Action

¹⁰⁵Cathy Schultze, "Job Loss Hurting Rural Areas," Nashville Banner, 112, 0.354 (March 30, 1987), p. A-1.

¹⁰⁶Ibid., p A-8.

Grant. Copperhill's Cities Service copper mines folded in early 1987 despite nearly \$35 million in IRBs issued in the 1970s. A \$2.2 million issue to Spinlon Industries helped keep its Van Buren County mill operating from 1978 to its shutdown in 1983.

Examples like these support Dennis Zimmerman's contention that IRBs are costly business subsidies. How, then, does one reconcile the considerable IRB-financed service and nondurable industry growth during this same period? As a beginning, one should examine Tennessee's bond usage and its labor market. Doing so provides a better perspective into the rationales of Tennessee's industrial development boards.

B. Changes in Tennessee's Labor Market: 1974-1985

Sectorial Trends

Like the nation, Tennessee's 1974-1985 job growth was a study in contrasts. Nonmanufacturing employment grew by 30.6 percent, while manufacturing declined by 5.26%, losing 27,200 jobs.¹⁰⁷ Service and trade industries posted the greatest gains, respectively adding 124,200 and 117,000

¹⁰⁷ TDES, Annual Averages: Tennessee Labor Force Estimates (Nashville: TDES, 1975, 1979, 1981, 1983, and 1985), state summaries.

jobs.¹⁰⁸ Although most manufacturing losses occurred in durable industries, such as steel and heavy machinery, automobile production spurred by the Nissan and Saturn projects seem to have stabilized this downward trend.

Table 3-1 shows long-term and greater growth in the nonmanufacturing sectors. These trends confirm most economists' predictions in the 1970s, that the nation would replace heavy manufacturing jobs with service, trade, and information-based technologies. As the nation converts to a post-industrial age, so has Tennessee, though more slowly. Thus the Tennessee bond market's conversion from manufacturing to trade and service issues seems initially a logical response to changing market demands.

Growth patterns suggest that the state's manufacturing employment has stagnated, hovering between 520,000 and 480,000, while nonmanufacturing employment has continued to grow. Consider that during the 1974-75 and 1979-83 recessions, the state at least twice as many manufacturing jobs as nonmanufacturing jobs, as Figure 3-1 notes.

In six of nine evaluation periods, manufacturing sectors lost jobs (1974, 1977-1981). Nonmanufacturing sectors showed positive results for eight of nine evaluation periods. Even though evaluation period 1979-82 showed negative job losses in both categories, nonmanufacturers showed

¹⁰⁸Ibid.

TABLE 3-1

**MANUFACTURING AND NONMANUFACTURING
EMPLOYMENT LEVELS AND RATIOS: 1974-1985**

Year	Ratio		Nonmanufacturing	Total
	Manufacturing	Mfg/Nmfg		
1974	516,500	1:2.03	1,050,100	1,566,600
1975	459,000	1:2.28	1,046,700	1,505,700
1976	487,200	1:2.24	1,090,200	1,577,400
1977	507,500	1:2.25	1,140,600	1,614,100
1978	526,000	1:2.39	1,211,000	1,737,000
1979	524,700	1:2.45	1,252,600	1,777,300
1980	502,700	1:2.65	1,244,500	1,747,200
1981	506,900	1:2.46	1,248,500	1,755,400
1982	466,700	1:2.65	1,236,300	1,703,000
1983	468,600	1:2.67	1,250,400	1,719,000
1984	497,100	1:2.64	1,314,900	1,812,000
1985	489,300	1:2.80	1,371,500	1,860,800

Source: TDES, Annual Averages: Tennessee Labor Force
Estimates (Nashville: TDES, 1975-85).

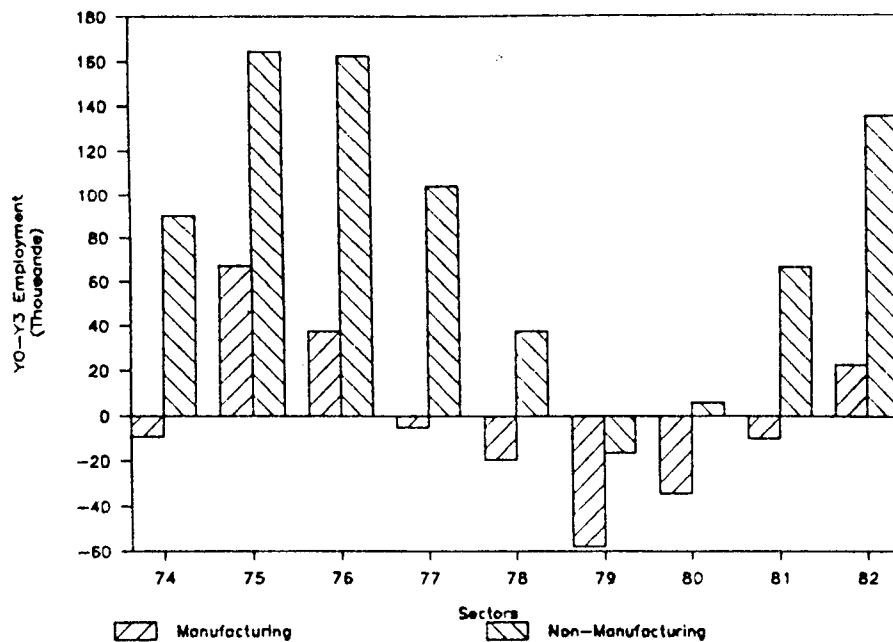


FIGURE 3-1

EMPLOYMENT NET CHANGE/INDUSTRIAL SECTOR
 TENNESSEE: PROJECT YEARS (PYs) 1974-1982

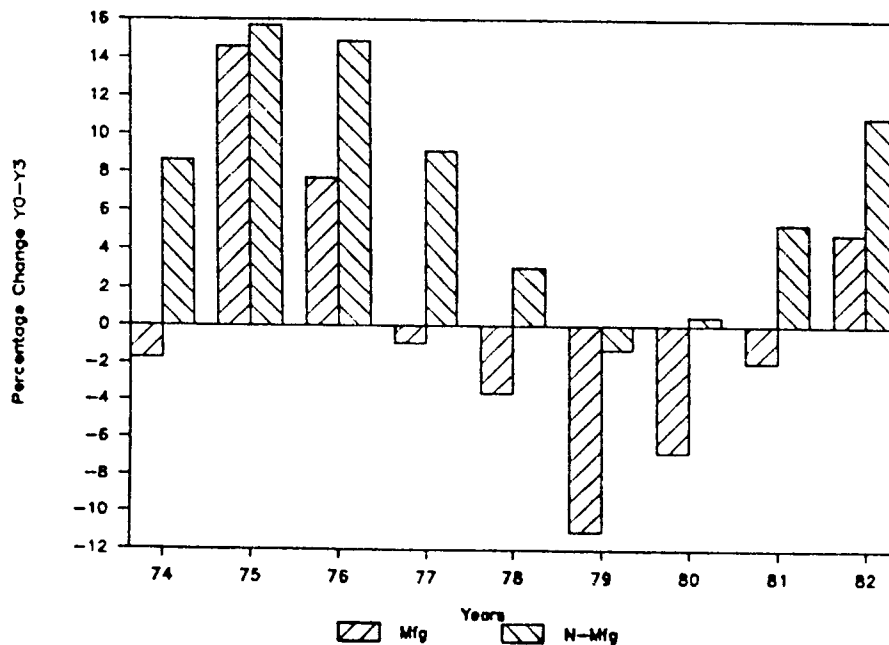


FIGURE 3-2

PERCENTAGE CHANGE BY INDUSTRIAL SECTOR
 TENNESSEE: PYs 1974-1982

considerably fewer losses, 16,300, compared to 58,000 manufacturing losses.

Similar findings exist with respect to percentage rates of change, as noted in Figure 3-2. Nonmanufacturing annual growth for evaluation periods 1974-1982 averaged 4.85 percent; manufacturing growth lagged at .23 percent. The gap closed only once, in project year 1975. The difference was three percent (12.59% manufacturing, 15.69% nonmanufacturing).

Which specific industrial sectors contributed to Tennessee's job growth? Table 3-2 provides some answers, in that both non-durable and durable manufacturing lost jobs for five of nine project years while trade and services lost jobs only once. Finance, Insurance, and Real Estate (FIRE) showed gains every year, and transportation, communication, and public utilities (TCPU) lost in two project years, 1979 and 1980.

Yet an interesting short-term comparison suggests that durable industries may, in the future, be more stable employers. Table 3-2 indicates durables outpaced nondurables for seven of nine project years. Further evidence of future durable dominance may be seen in the three final project years, when the job gap between durables and nondurables grew as more durable jobs were created.

Clearly, Nissan's 3200-person payroll helped durables recover from the 1979-83 recession. But various other projects across the state, especially in suburban and small

TABLE 3-2

**ABSOLUTE EMPLOYMENT CHANGE BY
STANDARD INDUSTRIAL CLASSIFICATION
(1-digit): TENNESSEE PYs 1974-1982**

Year	Non-Durable	Durable	TCPU	Trade	FIRE	Service
1974	54,300	-63,300	4,100	36,500	300	49,600
1975	24,700	42,300	12,400	58,300	5,400	88,200
1976	4,500	33,000	14,000	48,900	7,800	91,700
1977	-6,800	2,000	8,300	22,500	7,600	65,500
1978	-15,300	-3,800	3,500	800	5,300	27,900
1979	-27,500	-30,500	-3,300	-8,200	2,300	-7,100
1980	-23,100	-11,000	-3,000	10,200	3,200	-4,500
1981	-8,300	-1,500	2,400	33,400	6,300	24,300
1982	-200	22,800	7,300	57,200	9,400	61,300

Source: TDES, Annual Averages: Tennessee Labor Force
Estimates (Nashville: TDES, 1975, 1979, 1981, 1983,
and 1985).

N.B.: (1) Project years equal the nine evaluation periods
used for this study. One evaluation period equals
three years; if year 0 = 1974, then year 3 = 1977.

(2) Data represents latest benchmarks computed by
TDES, Labor Market Division.

urban areas contributed to durables' 22,800 net jobs during evaluation period 1982. Industrial revenue bonds financed various durable projects during this period, including providing infrastructure for the Nissan plant. Chapter 4 analyzes how IRBs affected this state's manufacturing employment.

As a share of the state's total employment, both durables and nondurables continue to decline. Nondurables used to comprise between 20-25 percent of Tennessee's labor force force; by 1985, that share fell to 13.77 percent.¹⁰⁹ Comparatively, service employment has doubled, from nearly 13 percent in 1960 to 20 percent.¹¹⁰ Trade, which surpassed nondurables in the early 1970s as the state's largest sector, has increased from about 20 percent to 25 percent.¹¹¹

Three generalizations can be made about Tennessee's changing labor force, given this section's evidence. First, most job growth since the 1970s has occurred in the trade and service sectors, as the number of nondurable jobs has decreased. Second, future manufacturing growth appears centered in the durable industries, as the new auto plants

¹⁰⁹William F. Fox (ed.), 1986 Economic Report to the Governor on the State's Economic Outlook (Nashville: Tennessee State Planning Office/Center for Business and Economic Research, University of Tennessee, October 1986), p. 72; and TDES, Annual Averages (Nashville, TDES: 1985).

¹¹⁰Ibid.

¹¹¹Ibid.

attracted to Tennessee begin operating, and as other new durable plants expand as well. Third, since service and trade industries tend to be smaller-sized and lower wage, wage growth may stabilize. Yet, as Birch and others have noted, much small business growth has occurred in the information-intensive areas of the service industry, such as computer services and biotechnology. Whether the new jobs Tennessee generates will be low-wage, low skill, or high-wage, high skill is one issue in which financing capital improvements plays a major role.

Regional Trends

Table 3-3 indicates Nashville surpassed Memphis as Tennessee's largest metropolitan labor market between 1979 and 1981. New plants and expansions accounted for most of Nashville's economic growth, while Memphis experienced repeated shutdowns and layoffs in nondurable industries. Knoxville and Chattanooga remained the third and fourth largest labor markets throughout the study period.

Generally, the four metropolitan areas tend to track the state's economy, as each area experienced economic downturns in 1974 and 1980. However, the areas differed in growth patterns in 1982 and 1985. Both times, Knoxville stood alone, growing in 1982 despite the 1979-82 recession, and declining during otherwise expansionary 1985.

Knoxville

Why did Knoxville grow steadily during the late 1970s and early 1980s? It appears the city's economic development

TABLE 3-3
TOTAL EMPLOYMENT CHANGE
TENNESSEE METROPOLITAN AREAS
1974-1985

Metropolitan Areas				
Year	Knoxville	Chattanooga	Nashville	Memphis
1974	187,090	159,560	305,800	333,400
1975	184,030	153,500	301,400	320,200
1976	191,350	160,100	315,800	327,100
1977	198,470	164,500	332,900	339,500
1978	208,930	172,800	351,300	354,400
1979	213,490	174,600	364,000	362,500
1980	209,920	168,700	356,000	357,600
1981	220,195	171,200	370,500	359,400
1982	221,150	164,600	366,300	349,200
1983	224,100	166,200	380,600	355,700
1984	232,600	171,300	407,500	374,800
1985	230,200	176,000	426,600	384,500

Source: Tennessee Department of Employment Security,
Annual Averages: Tennessee Labor Force Estimates
(Nashville: TDES, 1975, 1979, 1985). Data reflects U.S.
Bureau of Census metropolitan boundaries as of 1 January
1986.

efforts associated with the 1982 World's Fair played some role in stabilizing job growth, but not entirely. During the recession, Knoxville's durable manufacturing and service sectors experienced steady growth, mostly due to expansions of existing firms in three major areas: the central business district, the Cedar Bluff area, and the Middlebrook industrial area west of downtown.

Suburban growth included plant expansions and some additions associated with the Alcoa facilities. However, many smaller manufacturers and service firms created jobs as well. Employment data for this period shows healthy growth in small durable industries, health and business services.

If Knoxville managed to survive the 1979-83 recession, it failed to keep pace with other Tennessee metropolitan areas in the post-Fair years. Some observers attribute the 1983 collapse of the Butcher bank network as a signal event. However, spinoff impacts from deferring several TVA nuclear plants and the U.S. Department of Energy's decision to reduce operations at its K-25 facility are more likely reasons. Yet most Knoxville area firms interviewed for this study to validate employment data (25 firms surveyed between September 1985 and July 1986) felt the bank closings affected their business more than energy-related plant closings.

Firms responding to interviews cited cautious lending behavior and poor access to capital markets as serious recurring problems in 75 percent of the Knoxville cases. One

executive of a small construction company claimed the Butcher bank failures caused area banks to "clamp down tight" on available funds.

The Knoxville city government's indecision in redeveloping the Fair site was cited by 15 percent of those surveyed as hindering growth in the metropolitan area.

What do these findings suggest? First, as Michael Teitz and David Birch have observed, capital access drives firms to take risks, and area bank scrutiny has tended to reduce some entrepreneurial drive. Second, although individual firms may be affected by economic downturns, most measure the area's well-being in personal terms: how easy or difficult it is to get loans. Maybe this is too facile a description of Knoxville's economic problems in the mid 1980s, but job generation trends suggest the area has lost some of the momentum it exhibited before the 1982 World's Fair.

Sevier and Blount Counties experienced greater revenue and job growth rates than Knox County between 1983 and 1985, especially in trade and service sectors. Such growth suggests the Knoxville metropolitan area is losing manufacturing jobs and replacing them with retail and service activities. If more of the new jobs represent information-based technology, such as Maxima Corporation's data facilities in Oak Ridge, then greater spinoffs might flow. As of 1986, the outlook appeared more uncertain, as

many of the gains occurred in the food service and hotel sectors.

Chattanooga: Long-Term Recovery?

Figures 3-3 and 3-4 suggest that Chattanooga may have recovered faster from the 1979-82 recession than Knoxville. Clearly Chattanooga suffered from the recession, losing many nondurable jobs in chemicals and textiles. Its durable manufacturers held their own, although TVA-associated construction cutbacks reduced steel purchases, for example. The absolute employment change shows Chattanooga created more jobs in project year 1982 than Knoxville.

But Chattanooga's growth is somewhat paradoxical. Although some nondurable firms shed jobs, others grew rapidly, such as the area's major bakeries and food processors. Health services registered impressive gains, as did the hotel service sector, not an unusual occurrence, since both sectors showed good short-term growth during the 1980s. What led to Chattanooga's rapid recovery?

One answer seems to be a core of medium-sized and locally-owned companies, with ready access to capital. Analyzing this study's data base provides some support for this hypothesis. Trade and service growth rates for Knoxville and Chattanooga businesses show slight differences. Although initial growth rates for new establishments are similar, near-term (3-5 years) rates are greater in Chattanooga firms. This may suggest that some of

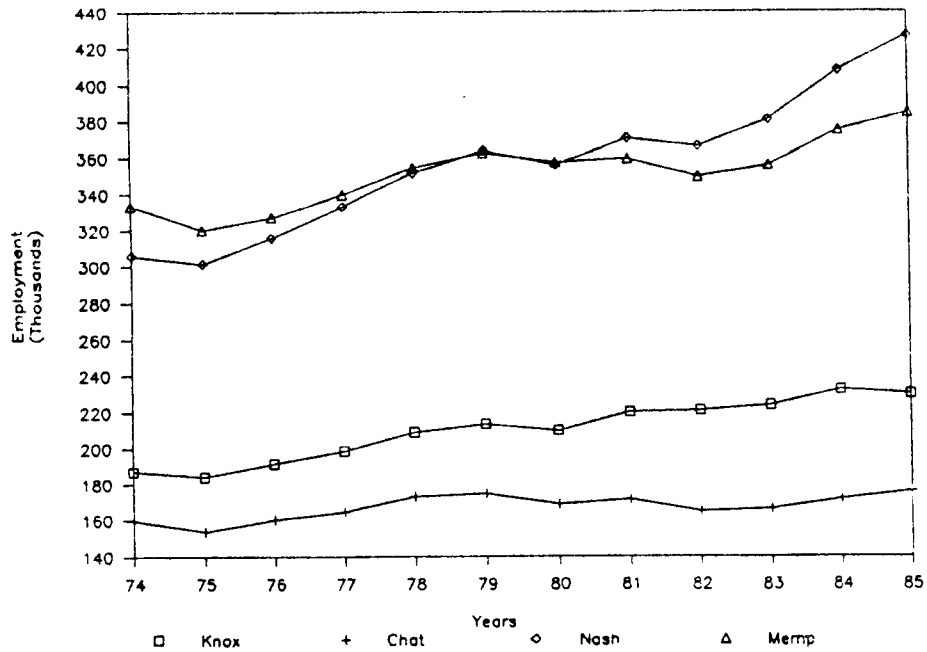


FIGURE 3-3

TOTAL EMPLOYMENT CHANGE/TENNESSEE METROPOLITAN AREAS 1974-1985

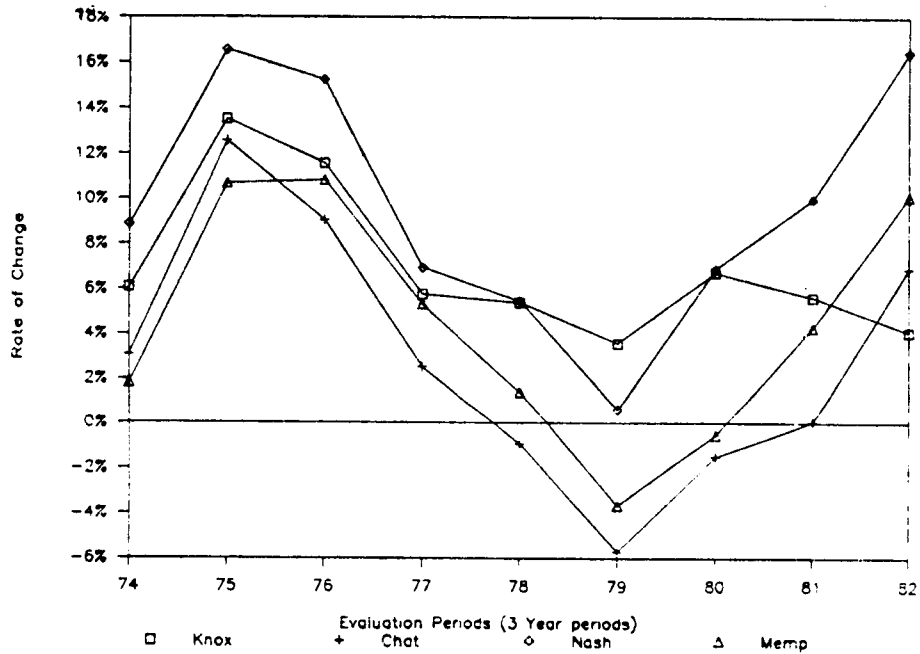


FIGURE 3-4

**NET EMPLOYMENT CHANGE: METRO AREAS
PROJECT YEARS 1974-1982**

the retail development in West Knox County during the 1979-85 period was speculative.

But the stability in job patterns extends to manufacturers as well. Plant retrenchment resulted in major job loss for one Chattanooga manufacturer studied; overall, bond-financed capital improvements resulted in stable employment patterns. Knoxville's retrenchments, while more frequent, showed relatively flat employment growth. New plants and expansions in durable manufacturing helped both cities retain jobs during the early 1980s, but the direction of capital investments suggests Chattanooga may be retooling faster than Knoxville, if the post-1983 trends hold.

Both metropolitan areas experienced repercussions from the 1983 Butcher bank failures, and several Butcher or Haney-associated projects in both cities were acquired by guarantors or the FDIC between 1984-86. Still, Chattanooga's downtown service sector grew, while Knoxville's remained relatively stable. The uncertainty of post-Fair development appears to have hindered Knoxville, as many of the downtown projects were associated with the success of the Fair and future convention business. Chattanooga's downtown redevelopment plans continued on schedule, with the opening of a downtown convention center and the Carter Street TVA office complexes. Bond refinancings for these projects were approved without controversy in 1984 and 1985.

Most of the Knoxville defaults and at least one Chattanooga default were Franklin Haney-associated projects. Haney, a Chattanooga developer and onetime 1974 candidate for governor of Tennessee, has been a major IRB recipient. During project year 1984, Haney projects constituted 36 percent of the state's tax-exempt market.¹¹²

Haney's aggressive approach to bond financing has included seeking approval from Nashville's bond authority for Chattanooga and Nashville projects.¹¹³ This practice is not unusual or illegal; as noted in Chapter 1, a 1980 Tennessee attorney general's opinion affirms extra-territorial bond authority jurisdiction. But Haney more than others has used the opinion to his advantage, and possibly long-term detriment. Consider that many federal and state bond restrictions resulted from perceived abuse of arcane regulations, especially the allocation limits contained in TECD's recent plans.

¹¹²Data extracted from TECD, Revenue Bonds Issued By Municipalities and/or Counties (Nashville: TECD, 1985), 102 p. (unpaged).

¹¹³Ibid. Official records indicate two Haney-related projects received approval by the Industrial Development Authority of Nashville and Davidson County during 1982. One was Knoxville's Summit Hill TVA office complex, and another was Patton Place, a downtown Chattanooga commercial redevelopment.

Nashville: Continued Suburban Growth

Tennessee's capital became its primary labor market, judging from Table 3-3, between 1979 and 1981. The eight county area, with a 1980 population of 850,505, generated more nonmanufacturing jobs than any other metropolitan area during the study period.¹¹⁴ During the 1979-83 recession, these patterns held as well, and no negative job losses were recorded.

Nashville also led the state's other metropolitan areas in absolute manufacturing net change for six of nine project years, and the impact of the Nissan location on the region's manufacturing is evident in project year 1982, when Nashville gained 11,400 manufacturing jobs during the 1982-85 evaluation period.

Published state employment data prevents one from examining the difference between Nashville's central city and suburban components, yet the bond volumes used by Nashville area suburbs suggests more development projects outside its central core. Bond dollar amounts for 1982 reveal a shift from Nashville to the suburbs:

- Suburban counties issued more bonds than Nashville for four of the nine project years: 1976, 1978, 1979, and 1982.
- During the busiest project years, 1979-82,

¹¹⁴Census data provided by Tennessee State Planning Office printout, January 1985.

the share of IRB-created jobs shifted back and forth, but the 1982 level, even excluding Nissan, favored the suburbs by a substantial, 200-job margin.

Suburban growth presents serious implications for efforts to finance downtown development in Nashville, given the caps established by DEFRA and tax reform. Developers rushed to obtain allocations from TECD during 1984 and 1985, and the amounts committed for such projects as Nashville's Stouffer Hotel/Convention Center, nearly \$30 million, made more of an impact with the \$653 million cap than in the pre-1984 free market situation. These developments suggest that TECD's 1984 allocation plan should have been developed earlier.

Memphis

While Nashville overtook Memphis as the state's primary labor market, Memphis underwent significant transformations as Federal Express became the area's major employer, while several large manufacturers closed operations. By the mid-1980s, it was clear that most of Memphis' employment had shifted into service-related jobs, including health care, banking, and hotel/hospitality sectors.

More than any other major metropolitan area, Memphis targeted its IRBs toward manufacturing and only one major service area-- distribution. This focused strategy probably accounts for the significantly lower levels of IRBs issued by Memphis' two industrial boards, the Center City Redevelopment Finance Corporation, and the Memphis-Shelby

County Industrial Development Authority. Even in the 1979-1982 project years, the number of IRBs never exceeded 22, and actually fell to 11 in 1982.

"We like to think of ourselves as being more careful," said one Memphis official regarding IRBs.¹¹⁵ Most significantly, of all major Tennessee cities, only Memphis required IRB projects to have infrastructure and planning site review before obtaining financing.¹¹⁶ Perhaps this approach put Memphis at a competitive disadvantage with the more aggressive Nashville and Knoxville boards. However, its efforts at downtown revitalization, including the \$6.25 million Beale Street Landing, introduced 120 jobs into what had been a decaying downtown area between the 1940s and 1970s.¹¹⁷

¹¹⁵ Charles "Ivy" Owen, Director, Community Development, Memphis-Shelby County Office of Planning and Development, personal interview, July 19, 1982.

¹¹⁶ Memphis-Shelby County Industrial Development Authority, "Guidelines for Submitting Requests for Industrial Development Bond Financing," (Memphis: MSCIDA, mimeographed, 1981), pp. 6-8.

¹¹⁷ Tennessee IRB database, this study.

C. Who Creates Jobs?

The Birch Study

As the trade and service sectors grew rapidly during the 1970s and 1980s, policymakers focused attention to job creation. Traditionally, federal, state, and local governments viewed large firms as the source of most jobs, and planners designed economic development plans, tax credits and incentives to benefit large firms.

Questioning this notion, David Birch's Job Generation Process, claimed small firms, not large firms, were the prime economic players. Studying 5.6 million businesses covered by Dun and Bradstreet, Birch found that two-thirds of the nation's jobs created between 1969 and 1976 came from firms employing less than 20 persons.¹¹⁸ As well, the most efficient firms were relatively young, less than five years old.¹¹⁹ Though the best generators were small and young, they were volatile, more likely to die than contract.¹²⁰

Birch claimed that individual firms, not some abstract notion of "economy," generated jobs. Further, poor micro data hampered effective economic development planning.

We know very little about who generates jobs, where they generate them, who controls these jobs,

¹¹⁸Birch, The Job Generation Process, p. 9.

¹¹⁹Ibid., p. 11.

¹²⁰Ibid., p. 11.

and who is thus most likely to respond to economic development incentives. In the absence of such knowledge, our approach has been to stimulate whole economies with such shotgun-like policies as tax incentives and easy access to money and public works programs. . . What we need, and have lacked, is the ability to target our incentives to those who can make good use of them without wasting taxpayers' monies on those who cannot.¹²¹

Finally, Birch analogized job generation to population change, with births (business starts), deaths (bankruptcies, closings), expansions (adding new product lines, increasing plant capacity), contractions (payroll, branch, and product line reductions), and migrations (moving from one region to another). Although others have questioned Birch's findings, they used his conceptualization.

Armington and Odle: How Significant a Share?

Catherine Armington and Marjorie Odle of the Brookings Institution disputed Birch's findings regarding small firms' share of job generation in 1981 and 1983. Armington and Odle's works confirm parts of Birch's small business growth hypothesis. Studying the United States Establishment and Enterprise Microdata (USEEM) files for 1979-80, Armington and Odle found small businesses accounted for 55 percent of the nation's net employment growth, and attributed firms

¹²¹Ibid., p. 2.

with fewer than 100 employees with about 78 percent of the nation's 1978-80 net employment growth.¹²²

The researchers disputed Birch's findings in two areas: (1) levels of small, independent business participation in job creation, and (2) classification of branch operations owned by larger firms. Participation levels extended to the degree of volatility new firms experienced. Armington and Odle found greater levels of job gains and losses in existing firms, and tended to discount the share of small business participation in the economy. While Birch claimed 82 percent of net new jobs between 1969-76 came from new independent firms, Armington and Odle's 1976-80 sample found only a 39 percent share between 1979-80.¹²³

What factors caused such great differences? Both studies used data from the Dun and Bradstreet Corporation, and both utilized Birch's component method for classifying job generation. The difference seems to lie in each study's reference period and sampling techniques. Birch used several measurement points rather than Brookings' two.

¹²²Catherine Armington and Marjorie Odle, Sources of Employment Growth 1978-1980 (Washington, D.C.: The Brookings Institution, March 1981), pp. 10-11.

¹²³Birch, The Small Business Share of Job Creation: Lessons Learned from the Use of a Longitudinal File (Cambridge, Ma.: MIT Program on Neighborhood and Regional Change, March 1983), p. 6.

Further, Birch's used a sample frame, rather than attempting a census, as Brookings did.¹²⁴

It is important to distinguish what Dun and Bradstreet data, source for both studies, can and cannot do. First, D&B files are not a census of U.S. firms. They provide marketing information and credit ratings on firms usually in business for several years. As a result, many small firms can be and are undercounted by D&B. Second, since D&B is primarily a financial database, historical employment data per firm takes a lower priority.¹²⁵ Finally, D&B purges periodically its Dun Market Identifier (DMI) file, the initial frame for both Birch and Brookings studies. One such purge removed 250,000 records in 1980, during Brookings' reference period.¹²⁶ Such purges help DMI's marketing clients reduce mail costs, but cause researchers problems in maintaining time-series data.

Birch's sampling practices seemed more conservative than Brookings. Spotchecking by MIT researchers revealed

¹²⁴Birch, Ibid., p. 8. Birch's calculations of Brookings data found 20.2 million more jobs than the Bureau of Labor Statistics standard methodology for 1979 and 1980.

¹²⁵Richard Greene, "Tracking Job Growth in Private Industry," Monthly Labor Review, 105, 0.9 (September 1982), p. 4.

¹²⁶Birch, The Small Business Share of Job Creation: Lessons Learned from the Use of a Longitudinal File, p. 29.

that some of Brookings' observations included overseas employment in its totals.¹²⁷

Teitz's California Studies

Small firms figured significantly in Michael Teitz's study of 25,000 California Employment Development Department files between 1975-79. Teitz found that 56.3 percent of net employment growth occurred in the 0-19 employee cohort, and 78.7 percent when counting firms with less than 100 employees.¹²⁸ Interestingly, Teitz found a slightly skewed pattern of job creation. While the 100-249 cohort showed only 5.4 percent net change, the 250+ cohort's share was three times higher, 15.9 percent.¹²⁹

Teitz's study confirmed another Birch finding, that job loss averages eight percent annually, and job creation through births and expansions must exceed that rate to maintain job stability.¹³⁰

A later study, The World of Small Business: Turbulence and Survival, supports and extends Birch's young, small, volatile firm hypothesis. Studying 28 San Francisco area

¹²⁷Ibid., p. 11.

¹²⁸Michael B. Teitz, Amy Glasmeier, and Douglas Svensson, Small Business and Employment Growth in California (Berkeley, Ca.: Institute of Urban and Regional Development, Working Paper 348, March 1981), p. 27.

¹²⁹Ibid.

¹³⁰Ibid., p. 37.

businesses, Teitz discovered an "underlying dynamics" existed with small business growth.¹³¹ Small businesses tend to undergo periods of expansion and contraction. A firm faces three types of factors affecting its survival:

1. Cyclical factors: Recessions and expansions have especially critical impacts on smaller firms with respect to credit availability and the size of orders from clients.
2. Sectorial factors: Industry practices and consumer tastes change, and firms failing to keep pace tend to fail. Alcoa's cold rolling aluminum plant, opened in 1987, uses a process initially rejected by many larger steel firms, but adopted by smaller steel mills.¹³²
3. Spatial factors: Changing neighborhood characteristics may affect its small firms, especially if the firm's clientele moves to another part of the city. Urban redevelopment and highway construction projects affected many of Teitz's respondents by making the firm's location less accessible.¹³³

Teitz's works support most of Birch's findings, and this is significant in at least one respect; Teitz's sampling frame, California's employment rolls, had the historical data Dun and Bradstreet lacked. Further, this

¹³¹Ann R. Markusen and Teitz, The World of Small Business: Turbulence and Survival (Berkeley, Ca.: Institute of Urban and Regional Development, Working Paper 408, June 1983), pp. 11-4.

¹³²Jack Lail, "ALCOA's New Technology, Worker Commitment Hailed," Knoxville News-Sentinel, 32,757 (October 24, 1987), p. A-6.

¹³³Teitz and Markusen, The World of Small Business: Turbulence and Survival, p. 28.

frame of California employers provides significantly more data regarding job generation since it covers wages as well as total employment. Federal guidance over the years has helped standardize state employment data by using common definitions and reference periods.

As a result, this study uses Tennessee's Unemployment Insurance 202 (UI 202) employment files to measure job change over time. If UI 202 data was unavailable on a firm, the author examined the D&B records and confirmed full-time employment by telephone interview or personal inspection. However, 90 percent of the study's records were attainable through examining UI 202 records following varying investigations of firm names. While the IRB database contains mostly established firms, and the share of small business generation may be smaller, there may be some benefits for small firms locating in IRB office and retail complexes, as Chapter 4 indicates.

The job creation process has been mostly a small firm-dominated phenomenon, though with much controversy. It is clear that employment data provided by D&B is less meaningful than state employment agency records. But in light of federal statistical budget cutbacks, state records may become less accessible, and researchers will turn to private data sources. If good microdata on businesses cannot be maintained, future job generation research may be jeopardized.

This chapter described the basic forces affecting job creation in Tennessee and the nation. As seen, these factors affected the manner in which various IRB boards issued bonds. Nashville and Knoxville boards took a more diversified, aggressive posture, while Memphis and West Tennessee boards generally reserved IRBs for existing manufacturers. Intense urban-suburban competition remains a threat to future bond supplies, and as seen in the Nashville examples, having an allocation plan is perhaps the safest, legal way to mediate urban-suburban disputes over IRBs.

How did IRBs perform in creating jobs? Chapter 4 answers that question.

CHAPTER 4

BOND-FINANCED NET JOB CREATION: REGIONAL, SECTORIAL, PROJECT AND SIZE PATTERNS

Bond-financed investment added at least 17,010 net full-time jobs to Tennessee's labor force between 1974 and 1985. Approximately 1,329 Tennessee establishments benefited directly from IRBs, as one of the 841 applicants or 488 tenants located in the 55 multitenant projects this study identified.¹³⁴

This estimate comes from summing project employment growth between years 0-3 for the 841 usable project entries in this study's data base. Initially, this number may seem small compared to an 1,800,000-member total labor force.¹³⁵ However, the microeconomic effect is significant, especially for suburban counties and durable manufacturers.

Contrary to common opinion, it appears Tennessee IRBs helped mostly small and medium-sized establishments. Medium sized businesses received 44.4 percent of all direct IRB investments, or \$664.63 million, between 1974-1982, and generated 6,613 jobs, 38.9 percent of total net IRB financed

¹³⁴Tennessee IRB database estimates, this study. Data excludes 22 pollution control projects and 26 unsold or otherwise unaccountable projects.

¹³⁵TDES, Labor Market Report 1985 (Nashville: TDES, Labor Market Division, 1986), p. 4.

jobs. Overall, establishments employing less than 100 persons created 54.5 percent of all IRB financed net employment. Large firms received \$211.63 million, only 14.2 percent in direct IRB investments, and created 1,331 jobs, 7.8 percent of total net IRB-financed jobs.

Though small and medium-sized establishments received most of the IRBs, independent firms received four to six times less money than corporate branch operations. This study estimates \$313.23 million, or 20.9 percent of total IRB dollars, directly benefited independents. Further, branches created nearly 12,700 total jobs between 1974-82. Both project and size findings confirm what many economists have suspected about IRBs: they tend to help many corporations expand by branching into small and medium-sized operations.

Do these findings mean that IRBs have been solely tools of larger industry? Not totally. Most of the 488 tenants benefiting from IRB financing were small businesses, and nearly 40 percent were independently-owned establishments. Thus if small independents did not actually receive IRBs, they were beneficiaries as tenants of major projects. Increasing the supply of office and shop space may have lowered rents in some regions thereby helping small firms at least lowering their rental costs.

This chapter has five segments: (1) a brief description of study methodology, (2) regional net job changes, (3) industrial sector net job changes, (4) project-based

(Birch methodology) findings, and (5) size-based findings.

A. Measuring Net Job Change

This study examines the relationship between two variables: IRB annual dollar amounts and net employment change, respectively the dependent and independent variables. Bonds issued and sold between January 1, 1974 and December 31, 1982 served as an initial sampling frame. The author used four data sorts to provide perspectives on net job change in the sampling frame vis a vis Tennessee employment:

1. Regional sorting -- examining net job change in Tennessee's three grand divisions and in four regional clusters: central cities (counties over 200,000 1980 population), MSA suburbs (23 counties included by the U.S. Census Bureau in metropolitan standard areas as of January 1, 1986 with less than 200,000 1980 population), suburbs/small cities¹³⁶ 15 non-MSA counties with 1980 city populations exceeding 10,000), and 53 rural counties.
2. Sectorial sorting -- using standard industrial classification methodology, the author measured net job change by manufacturing/nonmanufacturing groups and in six major categories: nondurable manufacturing; durable manufacturing; transportation and utilities (TCPU); trade; financial services (FIRE); service and other categories.
3. Project sorting -- Birch's components of net job change are used in this study: births, expansions, new entries by firms to Tennessee,

¹³⁶Term attributed to John Herbers, The New American Heartland (New York: New York Times Books, 1986), 283 p. among others.

in-migrations (moving within Tennessee), and shrinkage. Projects are classified according to corporate affiliation, as either single independent locations or branch operations. A branch operation is a plant or outlet operated by a central corporate headquarters. Single locations are one site-only, Tennessee-based companies.

4. Size sorting -- This study uses five clusters for size analysis: very small (1-19 employees); small (20-99 employees); medium (100-199 employees); large (200-499 employees); and very large (500+ employees).

Data Collection and Analysis

Data collection required extensive identification and validation beginning with a 940-member database the author assembled in August 1985. Next, the author eliminated duplicate entries, refinancings, and unsold issues, yielding an 889-member frame. During November 1985-March 1986, the author accessed the Unemployment Insurance (UI 202) records of the Tennessee Department of Employment Security. The author agreed to honor Tennessee Code Annotated § 50-7-201's confidentiality guidelines.

Initially, TDES data helped identify 325 of the members. Locating proper accounts for the remaining 564 members required six months of investigation. First, the author sent 56 inquiry letters to Tennessee bond authorities in March 1986. The mailing provided location and employment estimates for 154 members by the end of May. Two subsequent mailings, done in June and July, yielded 279 additional listings. Telephone inquiries made between July and September provided 45 more listings, or 803 members.

Thus, UI 202 records ultimately helped identify 90.9 percent of the sampling frame. The remaining 86 records were obtained through examining Dun and Bradstreet's Million Dollar Directory, metropolitan area alphabetical rosters, and area chambers of commerce. Twenty-two of these had unverifiable employment information and were eliminated from the study.

Issues Encountered

Completing this project required resolving two methodological issues. First, how would the study treat multiple tenant projects, such as shopping centers, office complexes, and industrial parks? Second, should pollution control projects be excluded?

Multiple tenants required more time than originally budgeted, and was perhaps the most complex issue the study encountered. If every multiple project tenant were counted, the database would require expansion to nearly 1,450 members. Additional investigation, time, and money would be spent. However, excluding multiple projects might focus the project too narrowly, given the controversial role shopping center issues has played in Tennessee and the nation.

As of October 1986, all multiple tenant projects had been identified. Consulting with his thesis committee, the author chose to count only those tenants locating within shopping center/office structures financed with IRBs. Thus a future non-IRB financed addition to a multitenant project would not be counted in the study.

If a tenant moved out of the complex, and its space remained vacant, the establishment was counted as closed or moved, if a new Tennessee location and employment could be verified. These situations occurred five times, and the total employment involved was less than 300.

Once an eligible tenant was identified, the author examined the tenants included on each multitenant bond issue, and examined how bond funds were allocated. The database dollar amounts reflect any formulas stipulated in the 55 multitenant projects. Otherwise pro rata shares based on the total project's year 3 employment were computed. So if a tenant had a 25 percent share of year 3 employment, it received 25 percent of the bond issue. Over 30 of the issues had specific formulas, and ten issues provided square footage figures for pro rata shares. Thus 15 multitenant projects were computed by a pro rata employment share method.

While resolving the multitenant problem required some extra analysis, excluding pollution control issues came easier. Excluding pollution control issues from this study is based on a twofold rationale. First, job creation is the central issue for this study, and pollution control, while a significant issue, is not the province of this study. Second, job losses are attributable to various factors, and associating job losses or gains based on acquiring pollution control equipment could be misinterpreted.

Some Definitions and Distinctions

Before examining this study's findings, two cautions are necessary. First, "establishment," as defined in this study, can be either a single location or a branch operation. As Chapter 2 indicates, filtering out major firms in job generation studies has been a hotly disputed issue. Looking back, if this study had separated branch operations from the small and medium-sized sorts for cluster analysis, more meaningful results could have been obtained. However, resources available for this study did not permit this to be done. However, the data is available for making future distinctions.

Second, UI 202 data excludes certain types of employment, including domestic, charitable, student, and commission-paid employment.¹³⁷ Since these limitations exist, one might consider the UI 202 a poor measure of irregular, part-time employment. It is, however, a good measure of most of the state's employment and tracks the Bureau of Labor Statistics and Census Bureau monthly samplings closely. Yet some jobs may have been undercounted due to UI exemptions. Thus the data represent a conservative estimate of net job change.

¹³⁷ TDES, Tennessee Unemployment Insurance Handbook for Employers (Nashville: TDES, February 1985), p. 1, quoting Tenn. Code Ann. § 50-1-309 (West 1984).

B. Regional Findings

Grand Division

Most IRB job creation took place in Middle and East Tennessee during the study period. West Tennessee played a much smaller role. East Tennessee placed first for four of nine project years (1974, 1979-81), while as Table 4-1 indicates, Middle Tennessee carried five of nine years (1975-78, 1982).

Simply stated, most of the state's bond activity during 1974-82 occurred east of the Tennessee River and more specifically in three metropolitan areas, Nashville, its suburbs, and Knoxville. The types of activities approved in these areas followed two patterns. Nashville and especially Knoxville concentrated on trade and service industries. Occasionally IRBs financed plant expansions in these two cities but most funds went for offices, hotels, shopping centers, warehouses and tourist facilities.

Nashville's suburbs gradually became the state's primary IRB generator. This is not just the result of the Nissan plant opening in project year 1982. Adjusting for Nissan, Nashville's suburbs still outpaced Nashville itself.

Not only did the Mid-Cumberland and East Tennessee development districts not only generate most IRB activity,

TABLE 4-1

**NET JOB CHANGES ATTRIBUTABLE TO
TENNESSEE IRB RECIPIENTS: PYs 1974-1982**

<u>Grand</u> <u>Division</u>	<u>Project Year</u>								
	1974	1975	1976	1977	1978	1979	1980	1981	1982
East	504	110	417	295	296	883	1122	1438	1571
Share	83.7	16.9	35.4	29.9	29.7	40.2	40.6	44.5	35.6
Middle	70	531	451	682	625	650	902	1118	2504
Share	11.6	81.9	38.3	69.0	62.8	29.6	32.6	34.5	56.8
West	28	7	119	200	74	660	740	679	334
Share	4.7	1.2	26.3	1.1	7.5	30.2	26.8	21.0	7.6
State:	602	648	1177	987	995	2193	2764	3235	4409

Source: Tennessee IRB database, this study.

N.B.: (1) Figures represent net new jobs covered under Tennessee's Unemployment Insurance Law. Data excludes unsold and pollution control issues.

(2) Project years represent three years from year 0. Thus project year 1974 = 1974-1977, 1975 = 1975-1978, etc.

districts figure either first or second for seven of nine project years. However, South Central Tennessee, presently the home of General Motors' Saturn plant, led the state twice in 1975 and 1976, when several durable manufacturing plants started production.

Notice how all three West Tennessee development districts dropped in net job creation between project years 1980 and 1982. These trends may be indicative of the type of industries aided by many West Tennessee IRB boards. Northwest Tennessee aided many textile and tire manufacturers, one of which, Firestone, closed a branch plant in Milan in 1983. The only retail center approved for

TABLE 4-2

**REGIONAL DIFFERENCES IN JOB GROWTH
TENNESSEE BOND RECIPIENTS: 1974-1982**

<u>Development District</u>	<u>Year</u>								
	1974	1975	1976	1977	1978	1979	1980	1981	1982
First									
Tennessee	125	-60	81	----	77	143	-30	63	329
East									
Tennessee	299	119	163	153	37	521	940	1151	866
Southeast									
Tennessee	80	51	173	142	182	219	212	269	376
Total									
East Tenn.	504	110	417	295	296	883	1122	1438	1571
Upper									
Cumberland	----	----	----	135	165	-50	115	89	26
Mid-									
Cumberland	70	119	205	486	463	606	560	938	2352
South Cent.									
Tennessee	----	412	246	61	-3	94	227	269	126
Total									
Middle Tenn.	70	531	451	682	625	650	902	1118	2504
Northwest									
Tennessee	(D)	-60	181	183	92	177	429	80	33
Southwest									
Tennessee	(D)	40	121	(D)	12	302	63	423	44
Memphis									
Delta	----	27	-183	(D)	(D)	181	248	176	257
Total									
West Tenn.	28	7	119	200	74	660	740	679	334
Statewide									
Totals	602	648	987	1177	995	2193	2764	3235	4409

Source: Tennessee IRB database, this study. D's indicate data is not disclosed to protect firm-specific information.

N.B.: Data represents net job change by project year: e.g. PY 1974= 1974-77. Data represents **only** IRB recipients.

IRBs in West Tennessee was Memphis' Beale Street Landing, approved in 1982.

Rural regions such as the Upper Cumberland, Northwest and Southwest development districts created significantly less jobs than Middle and East Tennessee's urban areas. Central cities, however, have had mixed success in generating jobs with IRBs, as Table 4-3 notes. Rural and suburban areas experienced more IRB-financed job growth than central cities for eight of nine project years. Project year 1980 proved the only exception, due to large office and service-related projects approved in Nashville and Knoxville.

Shelby County netted at least 320 full-time jobs during the project period, while Nashville-Davidson County gained 2,358, suggesting that Memphis IRB recipients were poor job generators. Nashville, Knoxville, and Chattanooga pursued a diversified IRB strategy. Memphis was a latecomer, and, unlike other Tennessee cities, avoided granting bonds for retail projects. Beale Street Landing, a redevelopment area south of downtown, was an exception, and was approved for \$6.25 million in 1981. Offices and residential developments in the center city were the second exception.

One should be cautious, though, criticizing Memphis' approach. Distribution and durable manufacturing jobs

TABLE 4-3

**CENTRAL CITY SHARE OF JOB GROWTH
TENNESSEE BOND RECIPIENTS: PYs 1974-1982**

<u>Central City</u>	<u>Year</u>								
	1974	1975	1976	1977	1978	1979	1980	1981	1982
Shelby (Memphis)	-----	(D)	(D)	13	(D)	155	210	137	210
Davidson (Nashvle)	70	107	84	303	5	241	414	560	574
Knox (Knoxvle)	164	46	133	24	-10	113	756	415	319
Hamilton (Chatnga)	-----	(D)	(D)	-22	(D)	26	148	171	300
Total Central Cities	234	266	-127	318	-28	535	1528	1283	1403
=====									
Percent of State Total	39.1	41.0	(N)	27.0	(N)	53.7	69.7	39.6	31.8

Source: Tennessee IRB database, this study. D's indicate nondisclosable data.

- N.B.: (1) Data represents projects approved by Tennessee Industrial Development Boards, and reflects net new, full-time jobs created three years after project approval.
(2) Unsold issues and pollution control issues are excluded.

created in Memphis tend to be more stable than the retail and service jobs created in other cities, if one examines the long-term employment records beyond the three year evaluation period this study uses. Second, although Memphis might not have created as many jobs as other Tennessee cities, its IRBs may well have preserved existing jobs. Third, this data does not detail the specific number of part-time jobs created by IRB projects.

If Memphis represents an exclusive approach to economic development, then Knox County probably represents an inclusive one. The county gained at least 1,543 full-time jobs during the project period. Directly affected establishments represented 12 percent of the county's labor force. Bond investments created at least 417 additional full-time jobs for multitenant projects, a total of 1,960. Most growth was in the service and trade sectors, however durable manufacturing, such as PlastiLine, Inc., Matsushita Consumer Electronics Division, and Marmon Transmotive, generated considerable employment.

The longer-term outlook for Knox County's job growth is questionable, however, given the type of jobs created in service and retail establishments, especially branch operations. The county's 417 multiproject-created jobs represent 21.3 percent of Knox County's cumulative total, the highest share for any Tennessee county studied. Available data suggests retailers tend to limit their full-time payroll within four years of the bond issue. Some

retail expansions over time employed less full-time workers than preissue levels. Retail and service industries tend to employ more part-time workers than manufacturers and distributors. Dun and Bradstreet surveyed 2,638 U.S. corporations in 1985, and found high part-time levels in retail and food service industries; one major company utilized 75 percent part-time employment.¹³⁸ Although growth may be rapid in retail and service sectors, the benefits from such employment may be less.

Excepting retail issues for Knoxville's East Towne Mall, most of the bonds issued were for commercial and office developments in two districts, Knoxville's downtown, and the western commercial strip along Kingston Pike. Areas in North, East, and South Knoxville received little IRB investment. Although this may well reflect an efficient, agglomerative model of economic development, it suggests that the lower-income areas of Knox County have not directly benefited from past IRB investments.

Nashville's policy struck a balance between exclusiveness and inclusiveness. Since 1961, Nashville bond recipients have been required to use local construction firms and banks to manage bond proceeds.¹³⁹ Until 1982, the

¹³⁸"Full-Time Dilemma," Knoxville Journal, 120, 0.280 (November 22, 1985), p. A-4.

¹³⁹Industrial Development Board of Nashville and
(Footnote Continued)

board approved only projects within its jurisdiction. That year, according to state records, the board approved three East Tennessee projects totaling \$7.362 million.¹⁴⁰

Central city redevelopment comprised about one-third of Nashville's total bond investments, and generated about one-fourth of the county's IRB financed jobs. A larger number of trade and service jobs came from office and industrial parks developed in Nashville's suburbs. Only nine percent of Nashville's IRB-financed full-time jobs came from manufacturing, while 36% came from services and 25% from distribution.

If rural districts and central cities did not benefit from IRBs, then which areas did? The answer seems to be suburban fringe counties in Tennessee's more urbanized development districts, especially Nashville's. The Nashville suburbs lead for most years, followed by the Tri-Cities and Knoxville suburbs. One usually associates suburban areas with office complexes and shopping centers, yet curiously most of the IRBs issued for these areas through 1982 remained manufacturing-based. Shopping center IRBs were

(Footnote Continued)

Board, May 15, 1979, p. 3. (Statement of James E. McKinney, counsel).

¹⁴⁰TECD, State of Tennessee Revenue Bonds Issued by Municipalities and/or Counties, (unpaged).

most prevalent in the Tri-Cities, especially in project year 1981.

The effects retail issues have on employment is evident in several Tri-City shopping center tenants. At least two Giant food stores and two family retail outlets exhibited rapid growth in years 0-3, stability through year 4, with reductions in year 5. The grocery employment reductions in the Giant food chain stores seem attributable to a 1984 corporate acquisition by Food Lion, Inc., and the retailing losses the result of hiring more part-time personnel. As noted earlier, retailers have turned to more part-time workers to cut benefit costs and increase productivity. Similar personnel cutbacks occurred in a rural South Central Tennessee shopping center and one north of Oak Ridge.

What do these developments mean for future job creation? It is clear that small establishments experience considerable turbulence as did these tenants. Various stages of expansion and contraction affect businesses differently. While it may be legally impossible to stop corporate mergers, IRB boards should not be afraid to question a developer's tenant commitments and see if any of the firms are stable enough to survive in a competitive environment.

An alternate view may well be that even if a shopping center creates only vacant space, excess supply gives small firms access to cheaper rents. But a tradeoff exists here. As a public policy question, is building speculative retail

space really an efficient public policy goal when most retailers seem to have adequate capital access?

Table 4-4 shows specific suburban shares of Tennessee's net job change for the study period. Note again the significant increases in Nashville's share for project year 1982. The Tri-Cities tend to be second in job creation, while Knoxville's suburbs place third. Data on the Memphis and Chattanooga areas is limited and no specific trends should be discerned from these data.

Table 4-5 shows the central city, metropolitan suburban, and rural shares of the state's job growth for the study period. Metropolitan suburban counties created net new jobs for every project year and exceeded 50 percent of the state's total twice, in 1978 and 1982. Although central cities exceeded the other clusters in four project years (1974-5, 1980-1), they lagged with severe losses in two (1976 and 1978). As central cities diversified their economic development strategies, their share of the state's net IRB financed jobs grew.

TABLE 4-4

SUBURBAN SHARE OF NET JOB CREATION
ATTRIBUTABLE TO TENNESSEE BOND RECIPIENTS: 1974-1982

<u>Suburban Area</u>	<u>Year</u>								
	1974	1975	1976	1977	1978	1979	1980	1981	1982
Tri-Cities	125	(D)	(D)	----	77	68	133	202	286
Knox Subur	129	----	----	(D)	78	72	79	254	271
Chat Subur	(D)	(D)	----	----	----	----	----	(D)	----
Nash Subur	----	(D)	84	166	449	251	146	348	1694
Clarksvl	----	----	(D)	----	(D)	114	(D)	(D)	23
Jackson	----	40	----	----	----	(D)	-31	251	(D)
Memp Subur	----	----	----	----	----	----	----	(D)	(D)
MSA Suburban Totals	278	10	148	221	613	486	327	1105	2360
Total Percentage	46.2	1.5	14.9	18.8	61.6	22.2	11.8	34.2	53.5

Source: Tennessee IRB database, this study.

N.B.: Data represents projects approved by Tennessee's Industrial Development Boards, and reflects net new, full-time jobs created three years after project approval. D's represent undisclosable data.

TABLE 4-5

**COMBINED REGIONAL SHARES OF JOB GROWTH
TENNESSEE BOND RECIPIENTS: 1974-1982
ABSOLUTE AND PERCENTAGE SHARES OF TOTAL**

<u>Region</u>	<u>Year</u>								
	1974	1975	1976	1977	1978	1979	1980	1981	1982
Central Cities	234 38.9	266 41.0	-127 0.0	318 27.0	-28 0.0	535 24.4	1528 55.2	1283 39.7	1403 31.8
Metro Suburbs	278 46.2	10 1.5	148 14.9	221 18.8	613 61.6	486 22.1	327 11.8	1105 34.2	2360 53.5
Rururbs	72 11.9	186 28.7	478 48.4	498 42.3	422 42.4	746 34.0	583 21.0	387 11.9	347 7.8
Rural Areas	18 2.9	186 28.7	488 49.4	140 11.9	-12 0.0	426 19.4	326 11.8	460 14.2	299 6.7
Totals Statewide	602	648	987	1177	995	2193	2764	3235	4409

N.B.: (1) Data represents projects approved by Tennessee's Industrial Development Boards, and reflects the number and share of new, full-time jobs per region. Pollution control issues and unsold issues are excluded.

(2) Project years 1976 and 1978 shares reflect the net share of new jobs created by the non-central cities, since the central cities' share for these years showed negative job losses.

(3) Regional definitions are based on the U.S. Department of Commerce, Bureau of the Census classifications as of 1 January 1986. Nonmetro suburbs include IRB-issuing counties contiguous to a central city, or exceeding 30,000 people (1980 Census).

Rural nonmetropolitan areas lagged the most of the four study groups. Only once, in project year 1976, did rural areas lead the state's regions, with 49.3% of the total. Otherwise, rural areas were last in six of nine project years (1974, 1977-9, 1981-2). Chronic unemployment, coupled with severe recessions in 1974 and 1981-3, affected rural areas' ability to create and maintain jobs.

Despite the two recessions, Nashville and Knoxville fared rather comparatively well with new service, retail, and some durable manufacturing projects. The long-term trends seem to favor the suburbs, especially the Nashville area. Nissan's truck plant, opened in Smyrna in 1982, helped Rutherford County lead suburban job creation for that year.

One should not attribute all suburban job growth to one or two industries, however. Morristown and Hamblen County recorded significant positive job gains for every project year it issued IRBs. Its 765 direct full-time jobs gained during the project period follows an implemented economic development strategy capitalizing on its location near the Interstate 40/81 junction, available flat industrial parcels, financing for manufacturing and distribution

projects, and continued assistance for existing firms' expansion and relocation needs.¹⁴¹ Ruburbs, or nonmetropolitan areas such as Morristown, while not leading other regions, enjoyed net new job creation for every project year. Although they led the state only twice, in 1977 and 1979, they lagged only once, in 1980. Even then, ruburbs as a group showed no negative job loss. Those suburbs experiencing job losses, such as Campbell County (LaFollette) and Bradley County (Cleveland), have replaced some manufacturing jobs with retail and distribution jobs.

Replacing lost jobs in rurban areas is neither easy nor uncontroversial. Angry retailers in LaFollette and Tullahoma sued their county industrial development boards, claiming the boards favored some retailers over others, although, as seen in Chapter 1, courts upheld the boards' actions. Although the areas usually have access to interstate highways and railroads, and usually have available industrial land, their job growth lags behind metropolitan suburbs such as Blount, Sumner, and Rutherford Counties, in absolute and percentage terms.

¹⁴¹Sharon Munroe, Assistant Director for Economic Development, Morristown-Hamblen County Chamber of Commerce, October 23, 1986, personal interview. See also Jane Gibbs DuBose, "Running Out of Land," Knoxville News-Sentinel, 32,037 (October 15, 1986), pp. D-1, D-3.

Although ruburbs benefited from several new plant locations in the late 1970s, their labor force needs further diversification. - Cookeville, located in the Upper Cumberland region, illustrates this problem. Its industrial board approved \$9.55 million in IRBs between 1977 and 1980 for new manufacturing plants. The projects created nearly 300 full-time jobs by 1983. Yet the area could not escape shutdowns; in 1983 and 1984, Northfield Industries, operator of Acme Boot plants, announced plant cutbacks and an eventual shutdown of its Cookeville facility.¹⁴² Losing Acme's 200 jobs effectively wiped out Cookeville's new plant gains. Its proximity to Interstate 40 and central location between Knoxville and Nashville aid in seeking industry. Large, accessible, flat parcels still exist. Still, Cookeville continues to lose manufacturing jobs.

Some rural areas, such as Bolivar and Hardeman County in the Southwest Tennessee Development District took a different approach in combating job loss. During the early 1980s, two of the county's three industrial boards issued bonds for small businesses, such as lumber yards, direct mailing services, and downtown retailers, creating nearly 60 full-time jobs. It created more jobs assisting a national manufacturer modernize its branch operation.

¹⁴²"Acme Cutbacks Announced, Plant to Curtail Operations," Cookeville Herald-Citizen, (September 17, 1983), pp. 1,2.

Despite distance from major highways, and fewer amenities than metropolitan areas, Hardeman County's projects created more jobs than expected with its \$6.4 million issues.

Such an approach suggests local economic developers should take care of existing, home-grown businesses as well as seeking new industry. Such an approach follows David Birch's findings that much of the nation's new jobs come not from large corporations, but small firms. Despite this knowledge, relatively few small businesses actually applied for Tennessee IRBs, relying on conventional financing. Despite this, it is clear they have enjoyed some indirect effects of IRB financing through increased affordable office and retail space, as the next section indicates.

C. Sectorial Findings

Manufacturing issues created 9,658 cumulative net jobs in project years 1974-82, roughly 56.7 percent of the total, while receiving \$684.93 million, or 45.8 percent. A brief examination of these findings suggests that manufacturing issues are more efficient job generators than trade and service issues.

Traditional economic development theory has supported developing manufacturing industries as a way to increase basic, or export-based employment, because its spin-off effects help nonbasic or service industries. Recently many public and private decisionmakers have urged restoring the nation's ability to compete with other nations by

revitalizing manufacturing industries. How then, does manufacturing compare to nonmanufacturing, from a Tennessee standpoint?

This study measured sector-based IRB effectiveness three ways. First, as noted, the study measures net job change between years 0-3, and manufacturing prevailed. Second, a capital cost efficiency measure dividing IRB-attributed net job change into dollar amounts by major industrial categories was done. Manufacturing and distribution jobs utilized IRB dollars better than trade and service jobs in eight of nine project years. Durable issues fared especially well in cost efficiency. Finally, a modified shift-share analysis of net employment change compared IRB-financed net job change with state totals in manufacturing and nonmanufacturing groups.

Shift-share results proved particularly intriguing. Despite various claims by retailers that their IRB-financed retail projects were just as important as manufacturing plants, the nonmanufacturing IRB share of state net job change amounted to no more than 5.23 percent in project year 1979, and generally ranged less than two percent of total net job change. Manufacturing issues showed significantly different results. Bond-financed projects led state net job change in five of nine project years, and accounted for 8.24 percent of the net job change in project year 1982.

Two cautions should be noted when analyzing these findings. First, IRB samples from 1974-78 tend to be much smaller than the 1979-82 issues. Thus findings made prior to 1979, while reflecting all non-pollution control IRB issues, represent a very small sample of Tennessee's employers. Second, shift-share state figures are based on the Annual Averages compiled by TDES. In certain cases, TDES totals exclude certain multiunit firms and miscellaneous industries in county totals. Thus the grand division totals used are probably lower than if TDES thoroughly reported all multiunit activity at the county level.

Net Job Change Findings

Figure 4-1 shows manufacturing issues created more jobs than nonmanufacturing issues in all project years except 1981. When durable and nondurable issues are delineated, durables lead the state for six of nine project years (1974, 1977-80, 1982), with significant leads in four (1974, 1978-79, 1982), noted by Figure 4-2.

Based on net job change, non-durables showed relatively flat growth, similar to the state manufacturing figures seen in Chapter 3. Durable IRB performance, however, outpaced the overall downward state trends during the 1970s and early 1980s. While Nissan's impact accounts for some of the IRB durable difference, other new durable plants located in the

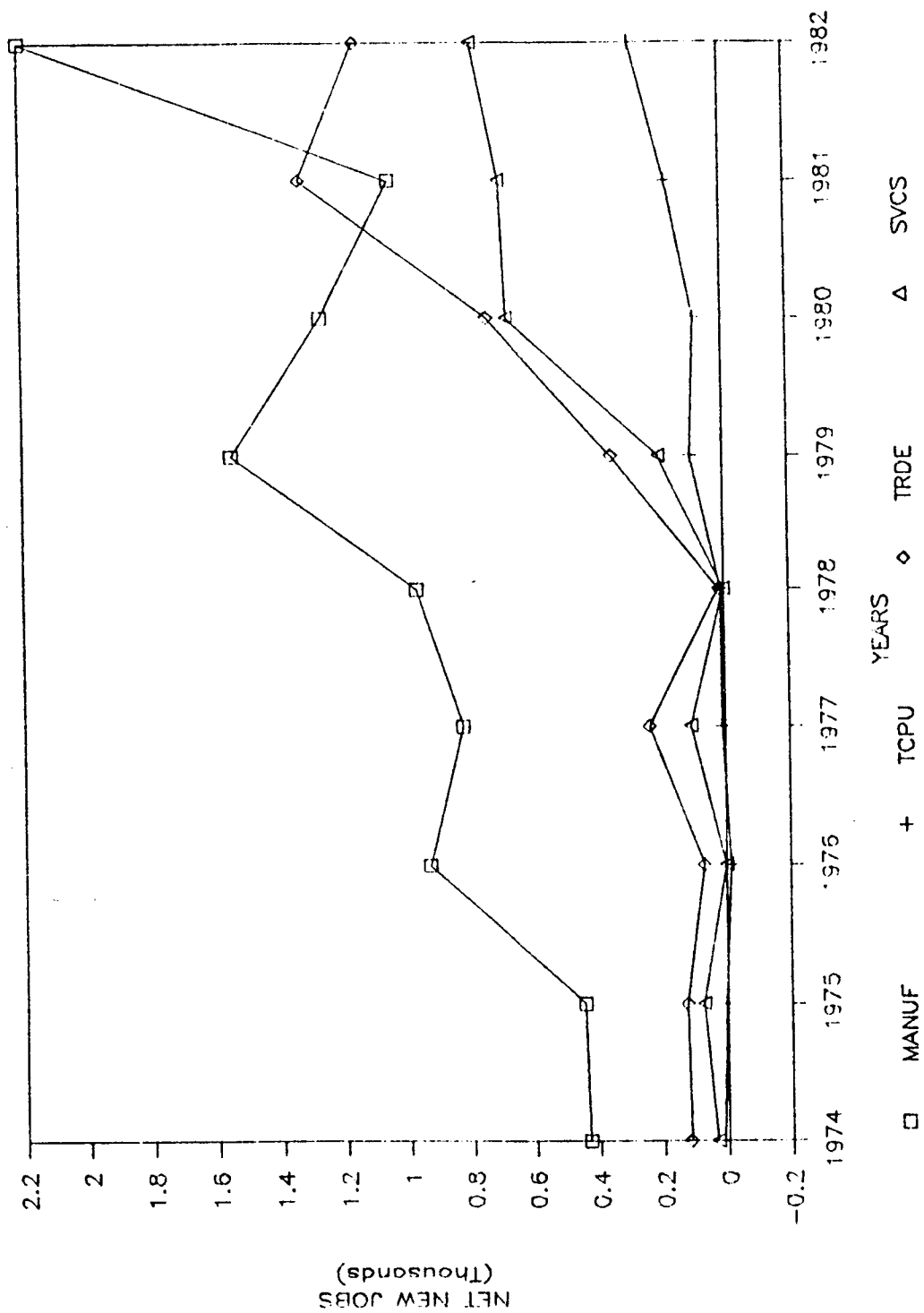


FIGURE 4-1

BOND-FINANCED NET JOB CHANGES
TENNESSEE PYS 1974-1982

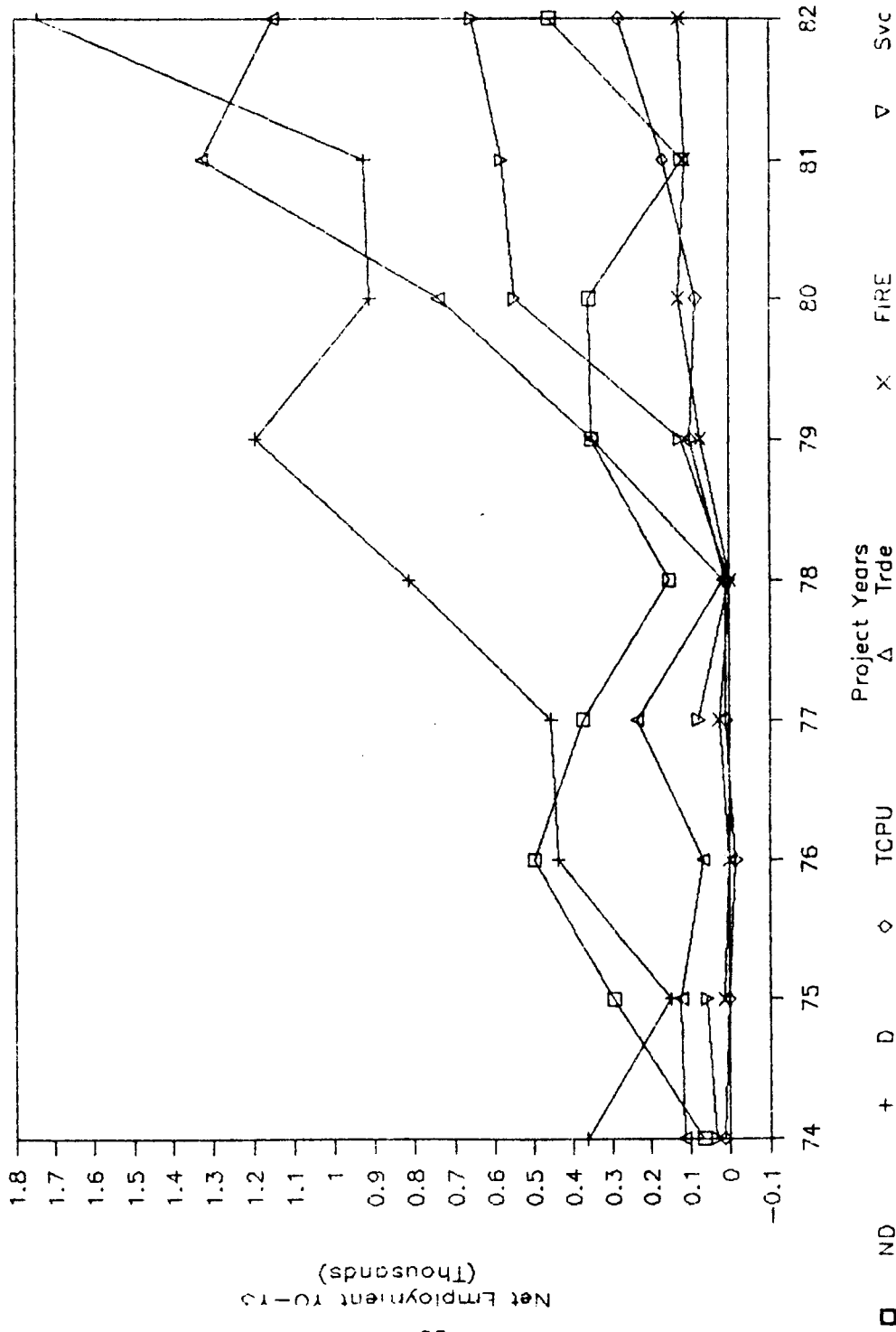


FIGURE 4-2

NET JOB CHANGE/INDUSTRIAL SECTOR
TENNESSEE IRBS PYS 1974-1982

Nashville suburbs and rural South Central Tennessee share credit.

Trade issues have taken second place as job generators since 1979-80, when the federal small issue limit increased to \$10 million, and many retailers started financing branches with IRBs. Although service and trade sectors have nearly three times as many jobs (see Table 3-1) as manufacturers, manufacturers dominate, though with reduced margins.

Further analysis reveals that service employment showed the most dramatic short-term growth, if one examines percentage increases and job changes between years 0-3 only. The medical and business service sectors showed the fastest growth levels (SICs 80 and 73). The successful service firm tended to be small to medium-sized, more likely a branch operation, and a Tennessee-based operation. These firms tended to locate in office or industrial parks, such as Nashville's Space Park North or Baum Industrial Park in West Knoxville. But costs per job may be high, as Table 4-6 notes.

Office construction and related tenants fared unevenly. Financial service firms using new central city office space were less likely to expand as those based in lower-cost office parks. One cannot solely attribute service firm employment growth to a certain facility type, since only a small sample exists here. Still, lower office rents might have influenced firms to invest in personnel and equipment.

TABLE 4-6

**CAPITAL COSTS BY INDUSTRIAL SECTOR
INDUSTRIAL REVENUE BOND RECIPIENTS
IN TENNESSEE: PROJECT YEARS 1974-1982**

Year	Manufacturing		Nonmanufacturing		
	Nondurables	Durables	TCPU	Trade	Services
1974	167,794	26,483	(D)	27,170	126,470
1975	57,796	(D)	(D)	87,760	112,083
1976	31,233	74,770	(N)	99,565	N/A
1977	55,443	40,803	25,750	20,361	81,509
1978	86,902	46,020	34,000	308,937	(D)
1979	105,028	45,405	82,673	94,417	152,032
1980	118,238	67,545	56,058	89,025	112,966
1981	404,661	63,984	79,142	83,601	133,480
1982	108,144	68,899	45,528	104,480	195,890

N.B: (1) "Project years" cover the year the project received approval by inducement resolution (year 0) to three years later (year 3). Projects induced in 1982 fall under PY 1982, for example.

(2) Numbers represent capital expenses per each new full-time employee hired during a project period. Assume a \$5,000,000 issue provided 80% of the capital funding, and 100 new full-time employees were hired during the project period:

$$\frac{\$5,000,000}{.80 \times 100} \text{ or } \$62,500 \text{ per new full-time employees between y's 0-3.}$$

(3) "N"s indicate negative job loss, and capital costs were not displayed. "D"s indicate data sample too small for disclosure under Tennessee privacy statutes. "N/A"s indicate no projects met the sector descriptions for the project year.

While some retail outlets did cut their employment, as seen in the regional findings, some specific trade and service industries sustained high growth patterns, particularly mail-order catalog distribution and warehousing facilities. One IRB-financed case occurred in Hardeman County, two in the Nashville suburbs, and one in Memphis. Arguments supporting IRB financing for such industries have been made, and it appears Tennessee's latest allocation plan supports this view.¹⁴³ Federal Express, Holiday Inn, Northern Telecom, and Service Merchandise are Tennessee-based service exporters, for example.

Capital Costs per Job Created: Findings

It is clear that high capital investments do not necessarily mean increased job generation, but measuring capital use provides some measure of a firm's success in the competitive arena. Table 4-6 suggests, ceteris paribus, durable manufacturing and distribution issues create jobs per IRB dollar more efficiently than any other Tennessee industrial sector.

In seven out of nine project years, durables led in the efficiency measure. The two exceptions, 1975-76, were when non-durables dominated. Service and trade employment used more IRB dollars per net employee, possibly due to costs

¹⁴³TECD, Allocation Plan for Private Activity Bonds in Tennessee 1987 (Nashville: TECD, December 1986), pp. 5-6.

associated with new construction in high-rent commercial districts.

No clear pattern existed regarding the capitalization dollar figure in any sectors. Higher dollar amounts, and lower capital ratios, tended to occur during contractions in the Tennessee economy, noting 1974 and 1981's non-durable figures. Financial services, merged with services for this analysis, had wild fluctuations ranging from negative job loss in project year 1978 to 1982's high of \$409,359.

The latter probably reflects the \$35 million issued by the Knox and Anderson County industrial boards for building two Butcher-related banks in project year 1982. The FDIC seized both buildings in 1984, as a consequence of the February 1983 Butcher bank failures. Both buildings have subsequently been sold, but for this study's purposes, generated no net jobs, since this study excluded short-term construction employment.

Shift-Share Findings

One method to analyze a program's employment effects on a region is shift-share analysis. The method used in this study is a modified one, and one must be careful inferring too much from a sample which until 1979 was quite small.

Manufacturing IRBs had significant shares of the state's net job change, as evidenced in Table 4-7. While the state's net manufacturing change fell between project years 1977-81, IRB-financed employment remained positive,

TABLE 4-7

**MANUFACTURING/NONMANUFACTURING SHARE
NET JOB CREATION: PYS 1974-1982**

Project Year	Manufacturing	Nonmanufacturing	Statewide
1974	330	85070	85400
IRB Share	436	166	602
1975	66300	130270	196570
IRB Share	446	202	648
1976	29880	140970	170850
IRB Share	918	69	987
1977	-9480	95170	85690
IRB Share	826	351	1177
1978	-20370	63530	43160
IRB Share	967	28	995
1979	-56765	12370	-44395
IRB Share	1546	647	2193
1980	-30300	67190	36890
IRB Share	1249	1515	2764
1981	-6560	97140	90580
IRB Share	1045	2190	3235
1982	26315	147280	173595
IRB Share	2168	2241	4409

Source: TDES, Annual Averages: Tennessee Labor Force Estimates (Nashville: TDES, 1975, 1979, 1983 and 1985); Tennessee IRB database, this study. Unsold and pollution control issues are excluded. Each

N.B.: Project Years are four-year periods covering Year 0 (project application) to year 3. Project year 1974 covers 1974-77, for example. State shares of net job change for the project year are shown above IRB shares, which are in bold copy.

hovering between 800-1500 jobs. While nonmanufacturing issues as a group created more jobs between project years 1980-82, these IRBs never exceeded six percent of the state nonmanufacturing net change total.

This is a significant finding for two reasons. First, it is clear IRB manufacturing issues comprise a significant segment of Tennessee's labor force, and financing continued expansions yields positive results. Second, the low nonmanufacturing share suggests financing most retail and service IRBs as a class would not influence state employment.

East Tennessee industrial boards might contest this finding, as well they might. Nonmanufacturing IRBs during project year 1982 created 1126 net new jobs, or 7.8 percent of the region's net job creation total of 14,370. However, this is a rare case. Middle Tennessee issues netted 312 jobs in project year 1979, or 8.8 percent of 3,560 net jobs.

Consider the manufacturing impact on regional clusters in Tables 4-8 and 4-9. Even at the rural and small city (rurban) level, manufacturing IRB issues posted better than the state net changes, either leading or posting significant shares of state net change. Comparatively, the nonmanufacturing impact was smaller, except when rural areas are examined for project year 1981.

The overall shares of net job growth clearly favor manufacturing IRBs. Middle Tennessee communities used the

TABLE 4-8

**MANUFACTURING SHARE OF NET JOB CREATION
BY REGIONAL CLUSTERS: PYS 1974-1982**

Project Year	MSA	Ruburbs	Rural	Statewide
1974	-3410	-1800	5540	330
IRB Share	361	72	-18	451
1975	34800	13960	17540	66300
IRB Share	105	118	183	406
1976	16270	8250	5360	29880
IRB Share	-10	474	469	933
1977	-7710	960	-2730	-9480
IRB Share	436	352	21	809
1978	-13935	-945	-5490	-20370
IRB Share	583	393	11	987
1979	-35960	-9535	-11270	-56765
IRB Share	631	650	408	1689
1980	-24050	-2810	-3440	-30300
IRB Share	574	420	271	1265
1981	-12775	2615	3600	-6560
IRB Share	388	274	136	798
1982	8870	7685	9760	26315
IRB Share	1738	255	145	2138

Source: TDES, Annual Averages: Tennessee Labor Force Estimates (Nashville: TDES, 1975, 1979, 1983, and 1985); Tennessee IRB database, this study. Unsold and pollution control issues are excluded.

N.B.: Project Years are four-year periods covering Year 0 (project application) to year 3. Project year 1974 covers 1974-77, for example. State shares of net job change are shown above IRB shares, which are in bold copy.

TABLE 4-9

**NONMANUFACTURING SHARE OF NET JOB CREATION
BY REGIONAL CLUSTER: PYS 1974-1982**

Project Year	MSA	Ruburbs	Rural	Statewide
1974	59180	18190	7700	85070
IRB Share	151	(NA)	(NA)	151
1975	109260	9980	11030	130270
IRB Share	171	68	3	242
1976	116310	11000	13660	140970
IRB Share	31	4	19	54
1977	75710	11770	7690	95170
IRB Share	103	146	119	368
1978	53880	3670	5980	63530
IRB Share	2	29	-23	8
1979	17170	-1350	-3450	12370
IRB Share	390	96	18	504
1980	63680	3300	210	67190
IRB Share	1281	163	55	1499
1981	90510	6450	180	97140
IRB Share	2000	113	324	2437
1982	129110	12490	5680	147280
IRB Share	2025	92	154	2271

Source: TDES: Annual Averages: Tennessee Labor Force Estimates (Nashville: TDES, 1975, 1979, 1983, and 1985); Tennessee IRB database, this study. Unsold and pollution control issues are excluded.

N.B.: Project Years are four-year periods covering Year 0 (project application) to year 3. Project year 1974 covers 1974-77, for example. State shares of net job change for the project year are shown above IRB shares, which are in bold copy.

financing aggressively with respect to manufacturers even while financing some nonmanufacturing issues. Knox County IRB board members helped influence their area's recovery from the 1979-83 recession through numerous nonmanufacturing issues. Since the Fair and tax reform, Knoxville's growth has slowed, and Congress has restricted nonmanufacturing uses of IRBs.

D. Project Sort Findings

Single Location/Branch Findings

Initially, this study hypothesized that nearly 3/4ths of the dollars and job generation from Tennessee IRBs would be in branch activities. Cumulative totals show 3,814 of 17,010 net new IRB financed jobs derived from independent, single operations between project years 1974-82, or 22.4 percent of the total. During this period, \$313.23 million (21 percent) aided single locations, which this study also calls **independents**, while \$1.18 billion (79 percent) financed branch operations, confirming the hypothesis.

Issue trends reveal independents' IRB proportion of jobs and bond amounts actually decreased during the study period. Consider the ratio between independents and branches in 1974 was 1:3.6 (\$6.125 versus \$23 million). Eight years later, branches increased the ratio to 1:4.26 (\$84.353 versus \$359.262 million). Figure 4-3 confirms a growing net job change advantage as well for branches. Notice a steady early growth by independents through project

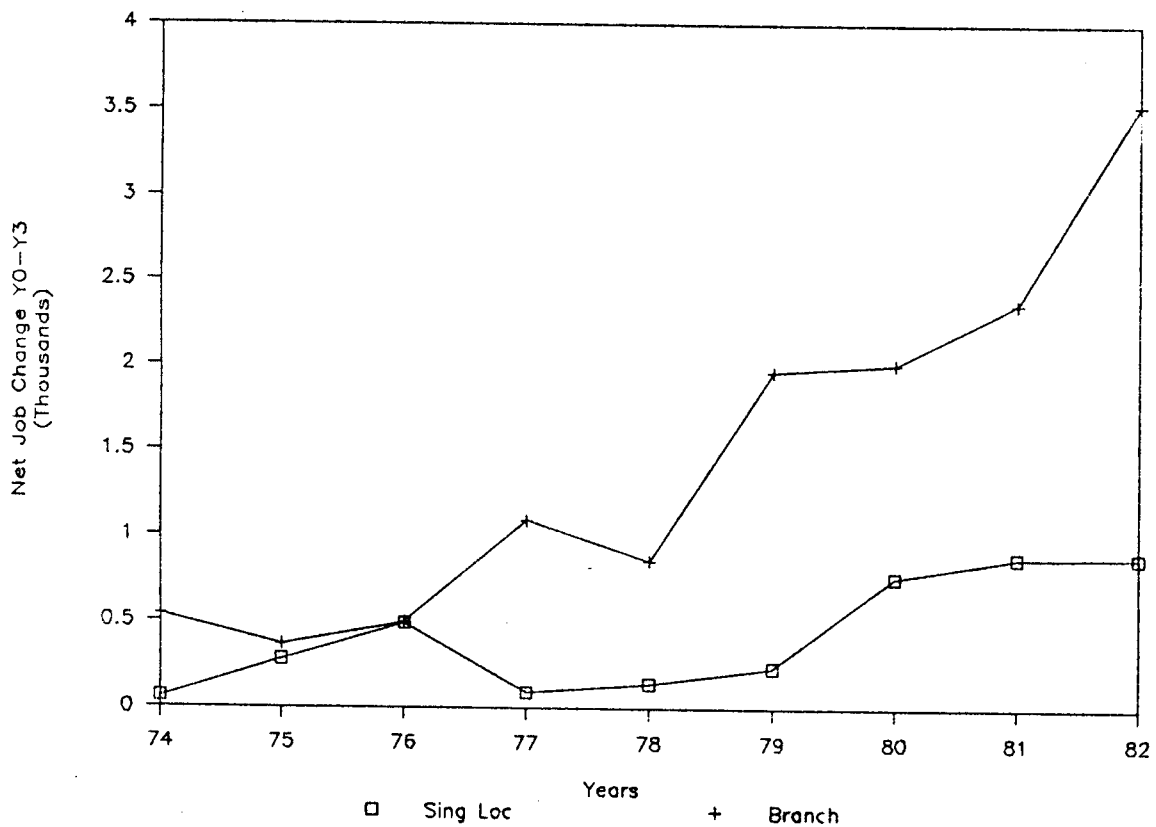


FIGURE 4-3

**NET JOB CHANGE BY PROJECT TYPE/SINGLE LOCATIONS
AND BRANCHES TENNESSEE IRBs PYs 1974-1982**

year 1976, when branches had a five-job lead, 496-491. The share dropped between 1977-79, and rebounded in 1980. So it is clear that branching generated more absolute jobs.

Sorting by branch and single location reveals that the proportion of jobs created tracks dollar amounts given cumulative as well as annual totals. Such a finding may indicate there may be a direct dollar per job relationship in all cases. This belies the fact that certain sectors receiving large IRB amounts like nondurables have high dollar cost ratios per jobs created, and the general tendencies of many manufacturers to invest in labor saving machinery, as noted by the Hellman study of Massachusetts IRBs cited in Chapter 2.

Are there any significant differences between branches and independents beyond the branch job/dollar advantage? Figure 4-3 suggests independents may generate jobs at a faster rate than branches, since they had higher percentage changes for five of nine project years (1974, 1977-78, 1981). It is a tenuous advantage. Branches posted solid margins in three of the busiest years 1979, 1980, and 1982). Further, independents fared better in smaller sample years. Consider that independents led in 1981 by only 21-20 percent.

Recessions may affect independents more than branches based on Figure 4-3. Excepting project year 1974, it seems

the 1979-83 recession constrained independents more than branches. Since nonmanufacturing jobs continued growing in Tennessee during this period, it may well be that branching retail and service outlets accounts for this distinction. Yet 1979 and 1982 saw considerable durable investments, so branch increases are not solely a retail or service phenomenon.

Cost differences shown in Table 4-10 suggest a slight advantage for independents in using capital to create jobs, but overall the cost difference seems insignificant. If one discounts the small sample sizes prior to 1979, there is almost none. Both categories ranged between \$75,000-100,000 per net job created during the last four years.

The high capitalization figure for branches, in project year 1975, \$229,166, is probably attributable to an extremely small sample size still disclosable under TDES regulations, and to a \$33 million issue in Polk County to Cities Service's copper refinery. Since the late 1960s, domestic copper production has dropped, and several major mines have been closed, including the Phelps Dodge mines in Bisbee, Arizona.¹⁴⁴

¹⁴⁴Michael Barone and Grant Ujifusa, The Almanac of American Politics 1986 (New York: National Journal, 1985), pp. 63-5. Polk County's job situation has worsened since 1975, as Cities Service continued to reduce its payroll.

TABLE 4-10

**CAPITAL COSTS PER NET JOB BY PROJECT TYPE
INDEPENDENTS AND BRANCHES:
PYs 1974-1982**

Year	Independents	Branches
1974	98,790	42,592
1975	78,316	229,167
1976	21,758	90,343
1977	88,352	43,356
1978	104,468	56,412
1979	91,640	71,246
1980	90,153	94,963
1981	88,077	103,599
1982	92,693	101,687

- N.B.:** (1) "Project years" cover the year the project received approval by inducement resolution (year 0) to three years later (year 3). Projects induced in 1982 fall under PY 1982, for example.
- (2) Numbers represent capital expenses per each new full-time employee hired during a project year. See Table 3-6 for further explanation.
- (3) Independents represent firms not a branch of a corporation, and are also called single locations in this study.

Project Distinctions

Expansions accounted for 7,300, or 42.9 percent of the state's net 17,010 IRB financed jobs created between 1974-82, leading new projects, new entries to Tennessee, and in-migrations. New projects netted 6,412 jobs, or 37.7 percent. New entries to Tennessee accounted for 4,689 jobs, or 27.6 percent, and in-migrations within Tennessee accounted for 978, or 5.8 percent. Shrinkages and deaths removed 2,369 jobs from the sample, making a -13.9 percent share of total net change. These trends are shown in Figure 4-4.

These findings confirm most job generation research that births and expansions account for most new jobs. Taken together, new projects and expansions accounted for 80.9 percent of net change counting shrinkage. Discounting shrinkages, the 13,712 net jobs in these categories represent a 70.6 percent share of the 19,379 gross jobs.

New projects, expansions and new entries to Tennessee dominated three project years. New entries led for project years 1977-79, and expansions led in 1975-76, and 1982. New projects had large leads in 1974 and 1981, but a smaller one in 1980. It appears that the influence of new entries to Tennessee, commonly considered a major job generator by laymen, is significant with respect to this database, but not dominant. Compared against the Birch and Teitz works, this sample shows higher migration contributions to job generation. Birch found less than 10 percent of net new

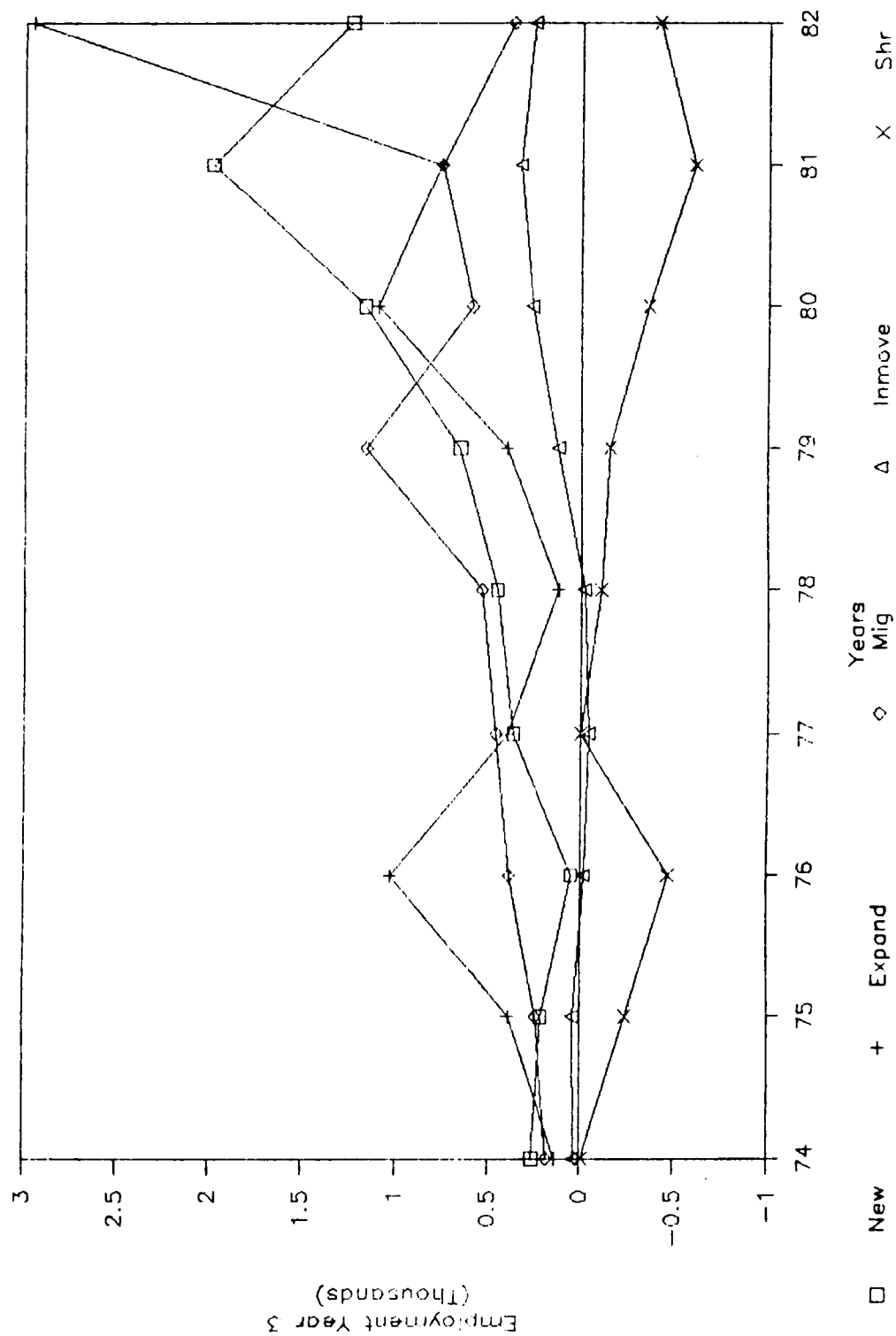


FIGURE 4-4

NET JOB CHANGE BY PROJECT TYPES
TENNESSEE IRBS PYS 1974-1982

jobs in the nation between 1969-76 was attributable to out of state migration, and around 12 percent resulting from in-moves.¹⁴⁵

In-moves figured less prominently and generated less positive employment per IRB dollar throughout the study period. For six of nine project years, in-moves posted the worst capitalization rates, as seen in Table 4-11. During the large sample years of 1979-82, in-move rates stabilized to \$150,000 per net job.

While new projects and expansions tended to have good capitalization rates, new projects generated jobs more efficiently in seven of nine project years than expansions. Thus while total dollars and net change volumes favor expansions, new projects tend to have a cost advantage in creating jobs in the long term. When examining 1979-82 issues, however, the differences are slighter, and the 1982 project year found new projects less efficient by a \$60,000 margin, \$125,683 to expansion's \$64,192 per net job.

New entries, however, had the best capitalization rates for five of nine project years (1975-77, 1979, and 1981). They placed second in 1974, 1978, and 1980 to new projects with dollar margins ranging between \$7,000 (1974) to \$24,000 (1978). Expansions led only in 1982, and even here, new

¹⁴⁵ Birch, The Small Business Share of Job Creation: Lessons Learned from the use of a Longitudinal File, pp. 12, 27. The Job Generation Process, p. 9.

TABLE 4-11

**CAPITAL COSTS BY PROJECT TYPE/TENNESSEE
BOND RECIPIENTS: PYs 1974-1982**

Year	New Project	Expansion	New Entry	In-Move
1974	20,210	107,276	27,793	(D)
1975	46,308	131,192	22,263	42,500
1976	64,480	34,717	20,663	(N)
1977	48,246	53,662	24,563	(N)
1978	24,835	120,252	48,141	(D)
1979	74,102	80,121	39,091	160,720
1980	61,738	79,207	74,734	155,736
1981	70,842	91,137	52,124	166,298
1982	125,683	64,192	69,537	168,817

N.B.: (1) "Project years" cover the year the project received approval by inducement resolution (year 0) to three years later (year 3). Projects induced in 1982 fall under PY 1982, for example.

(2) Numbers represent capital expenses per each new full-time employee hired during a project period. See Table 3-6 for further detailed methodology.

(3) **New projects** represent projects started by independents or branches no earlier than three years prior to the bond issue. **Expansions** represent extensions of existing projects. **New entries** represent first-time corporate entry to the Tennessee market, such as Nissan, and must have entered the state no earlier than three years prior to the bond issue to be considered a new entry. **In-moves** represent moving one plant site from one Tennessee site to another.

entries finished a close second, \$69,537 to expansion's \$64,192.

Why did new entries fare better in using IRB dollars? First, most migrations were firms employing between 100-199 employees, the most efficient IRB capital utilizers based on size sorting. Second, the proportion of public subsidies for new entries appears higher than those for new projects or expansions, based on the IRB-attributable share of total net change. For example, a typical IRB-financed new entry project had a 60 percent IRB share for a capital improvement costs, thus if the new entry's investment cost was \$10 million, \$6 million was IRB-financed.

New projects and expansions used higher shares of conventional financing, usually a 60-40 conventional/IRB mix, and the often cited "Burger Bonds," where 75-90 percent of the project received IRB financing, was in absolute net change not the rule, even in project years 1979-82.¹⁴⁶

Size Findings

Small firms employing between 20-99 persons generated 6,617 net IRB financed jobs during the study period, or 38.9 percent of the total 17,010 jobs created. Large firms employing 200-499 persons were a distant second, yielding 3,396 jobs (19.9%). Medium firms employing 100-199 persons

¹⁴⁶IRB database, this study.

created 3,006 jobs (17.6%), and small firms followed with 2,660 (15.6%).

Only 7.8 percent, 1,331 net new jobs, were created by very large firms employing over 500 persons. However, \$211.625 million in IRBs went to large firms during this period, 14.2 percent of the total \$1.493 billion covered in this study. Very large firms posted two of the three net losses of the five clusters in project years 1976 and 1981. Large firms showed the remaining net loss in project year 1975. Figure 4-5 notes these trends.

Large firms created more net jobs in four of nine project years (1974, 1976, 1978-79). Small firms in the 20-99 cohort led for four years also (1975, 1980-82), and medium firms placed only once, in 1977. However, Table 4-12 shows that small firms employing 20-99 persons had the lowest capital use ratios beginning in project year 1977. Very large firms had the lowest ratio in 1974-75, and large firms did so in 1976.

It appears these data refute the notion that very large establishments dominate IRB dollars and support Birch and Teitz's findings that very large firms generate fewer jobs. However, the very small firm's share of job creation is significantly less than Birch's 67 percent or Teitz's 56 percent. Combining this study's very small and small cohorts results in a 54.5 percent cumulative share, 9,273 of 17,010 net cumulative jobs. This figure approaches Birch

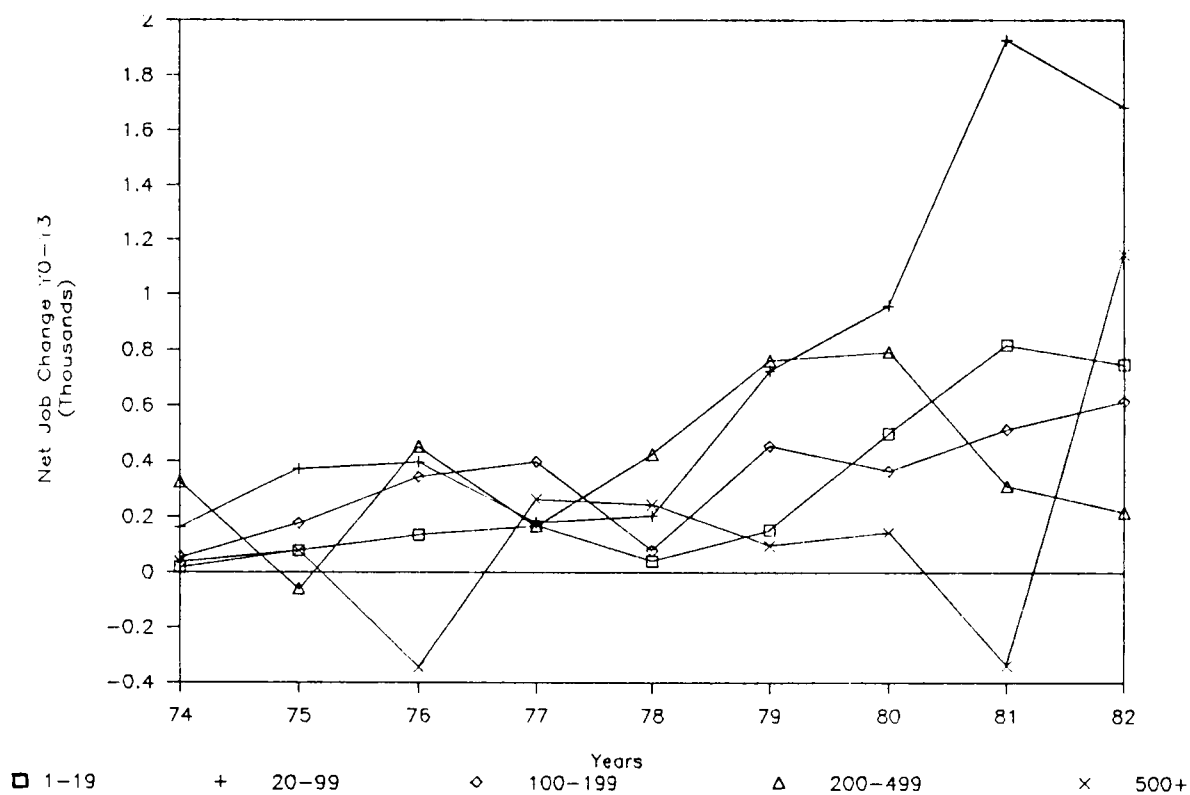


FIGURE 4-5

**NET JOB CHANGE BY SIZE OF FIRM
TENNESSEE IRBs PYs 1974-1982**

TABLE 4-12

**CAPITAL COSTS BY SIZE OF FIRM/TENNESSEE
BOND RECIPIENTS: PROJECT YEARS 1974-1982**

Year	Very Small	Small	Medium	Large	Very Large
1974	(D)	44,012	(D)	22,883	(D)
1975	144,430	91,890	(D)	(N)	564,557
1976	22,244	52,550	15,596	51,982	(N)
1977	67,202	62,417	20,125	59,091	56,061
1978	76,415	125,284	120,705	47,892	(D)
1979	71,948	94,751	74,945	46,719	(D)
1980	78,531	131,497	104,264	43,681	142,068
1981	111,890	79,143	48,713	87,484	(N)
1982	87,690	129,486	85,883	136,636	67,773

- N.B.: (1) "Project years" cover the year the project received approval by inducement resolution (year 0) to three years later (year 3). Projects induced in 1982 fall under PY 1982, for example.
- (2) Numbers represent capital expenses per each new full-time employee hired during a project period. See Table 3-6 for further explanation.
- (3) Very small firms represent firms employing 1-19 persons; small firms represent those employing 20-99 persons; medium firms represent those employing 100-199 persons; large firms represent those employing 200-499 persons; and very large firms represent those employing 500 or more persons.

and Teitz, but it is still lower than their 80 and 70 percent shares for firms employing less than 100 persons. The author expected this study's size clusters to differ with the Birch and Teitz studies since few small businesses meet the qualifications or generally desire public financial assistance, as Chapter 1 noted. The cumulative 15.6 percent small firm share was higher than expected. The author speculated a 10 percent share would be normal given prior examination of IRB applicants.

Very small, independent, new firms, Birch's best job generators, received 2.9 percent of \$1.493 billion in IRBs issued during this period, but generated 5.4 percent of the period's cumulative net new jobs. If 2.9 percent of IRB dollars can produce 5.4 percent of the state's IRB-attributable jobs, then it might follow that Birch's hypothesis holds, and small firms are the best job generators, even if they are mostly multiunit tenants.

Creating jobs in large establishments appears to cost more in comparison to smaller firms given Table 4-12's findings, but this may be deceptive. First, the wages paid workers in large establishments tend to be higher than the state average, when one examines UI 202 data. Since this study does not address wage differences by sizes of firms, future research should be done in this area. Second, most economic analysis suggests that larger firms, particularly manufacturers and exporters, have a higher spin-off effect

on the local economy. Again wages play a role, but servicing these firms creates additional opportunities for service firms.

Some very large IRB recipients faced unique problems. For example, the high capital ratio for very large projects in 1975 is attributable again to Cities Service's bond issue, and its subsequent layoffs. Their performance in 1982 improved in part because of Nissan's \$70 million infrastructure issue.

Medium and large establishments had the best IRB capital ratios during project years 1976-81. While these patterns may reflect efficient use of capital, they may be creating lower quality jobs. We do not know how different IRB wages are with respect to statewide averages, but if IRB financing cost medium-sized firms \$20,125 per net job created in project year 1977, then it may follow that the jobs created pay less wages.

This may be a significant finding. It tends to affirm the New Jersey Economic Development Authority's argument that small firms were major IRB recipients, as well as similar findings in Norman Ture's analysis of New York Job Development Authority loans, both noted in Chapter 1. However, if one disaggregates to measure the performance of new, independent firms, Birch's most efficient job generators, those firms generated only 913 net new jobs, or 5.4 percent of the 17,010 total 1974-82 share.

Significantly, it took \$42.76 million to finance these jobs, 2.9 percent of a \$1.49 billion pool. If 2.9 percent of these dollars generates 5.4 percent of the net new jobs, then it might follow that small firms are the best IRB users, though they may be in most cases silent beneficiaries, receiving affordable office and shop space through a developer's receiving the subsidy. Chapter 5 suggests policy recommendations and directions for future research given these findings.

CHAPTER 5

FINDINGS AND RECOMMENDATIONS

Should tax-exempt financing survive, based on its job creation abilities? This study's findings suggest IRBs tend to influence manufacturing, not trade and service employment. Further, durable manufacturers and distributors have the best job creation records and use capital more efficiently than other industries, based on Chapter 4's findings, and supports Tennessee's pro-manufacturing philosophy, described in TECD's Allocation Plan.

It appears that the best overall job generators are branch operations employing 20-99 persons, and further, that most job generation activity from IRBs comes from expanding these types of firms. But the type of industry makes a difference as well, since many retail and service firms studied lost employment four years after receiving IRB financing. Durable manufacturers in this study showed better job creation rates than statewide total employment net change for every project year, and they tended to retain jobs longer than other sectors.

Expansions create most of Tennessee's IRB financed jobs, and this finding is especially important. Hardeman County's IRB program concentrated on helping existing

establishments, and as Chapter 3 noted, the county's issues helped stabilize declining job levels, for example. Morristown has planned and implemented a very successful industrial recruitment and retention based on IRB financing and meeting its industries' real estate and infrastructure needs. These examples suggest that local industrial development boards should work to address existing industry needs first. Economic development agencies should examine their local industries using the UI 202 database to identify drops in employment, and develop responses in conjunction with their industrial development boards to meet business needs early, before employment crises emerge.

While Birch, Teitz and others have shown small and medium-sized businesses have excellent job generation records, it may well be that a structured, formalized planning process can respond to these businesses' needs. Facility development designed to help medium and large businesses might affect the property and clientele of smaller firms, as Teitz has noted. One might suggest governments become more sensitive to small business needs in relocating highways to preserve neighborhoods, for example, and its businesses.

While the Allocation Plans suggest a manufacturing and distribution focus, they do not require local communities to consider the impacts an IRB project may have on job creation. A nonmanufacturing-based, service

short-term job growth, but what are the consequences five, ten, or twenty years later? Unless local and state officials achieve a working consensus on economic development goals and target funds and energies toward meeting them, economic development programs like IRBs will remain exercises in crisis management and damage control.

Tennessee's IRB policies should include three specific initiatives. These are:

1. Should sectorial priorities be made, manufacturers and exporters deserve the highest priority based on past performances. This study shows that durable manufacturers and distributors are the steadiest job creators. Their impact on statewide employment net change as noted in Chapter 4, is significant.

2. State and local governments should use IRBs as part of an "early warning" program against plant closings and employee dislocations. State and local economic development agencies need to examine local UI 202 employment data and monitor for signs of early distress, such as layoffs, capital redeployment plans, poor plant facilities and equipment, and offer IRBs to improve deficiencies. The bond issue should be treated as an extended social contract between the IRB recipient and his/her community. If IRBs are granted, measurable actions to improve the plant's efficiency should be made without severely dislocating its workers.

without severely dislocating its workers.

3. Initiatives to develop affordable office and shop space for small businesses should be encouraged with IRB financing. Such a provision would help encourage small and medium-sized firms to locate in, for example, distressed rural and urban areas. However, the program should have procedural safeguards against speculative abuses. Developers should have commitments prior to any IRB financing being granted, and the local board should question whether certain projects would lead to overbuilding certain facilities.

Based on this study's industry analysis, it would be best that IRB boards avoid relying solely on retail, service, or migrating firms to increase jobs. Many retailers shed jobs after the four-year evaluation period ended. Though boards should try to encourage jobs, it is equally important to encourage competitiveness in bond recipients. Will the recipient retool his textile plant and retrain workers to use robots and other labor-saving devices? At a minimum, communities need to know what the firm has in mind and how it will accomplish its goals.

As this study answers some questions, it raises at least one. We know generally what types of industries benefited from IRBs, and that IRB financed manufacturers led in net job change. It appears that industries receiving IRBs tend to have higher average annual wages than their industry contemporaries, but it is not clear

how higher they are. A wage analysis using UI 202 data would answer this question.

Findings from this study show that access to affordable financing, such as IRBs, has helped create and stabilize jobs in periods of high interest rates and in areas of high employment. But most IRB assistance has helped existing businesses expand or stay in business. Small firms have been passive beneficiaries, though their job generating skills exceed larger firms.

In sum, this study provides a basis for measuring how past Tennessee IRB recipients performed in creating jobs. Policymakers in Nashville and at local levels may use this study as one more basis for judging who will receive tax incentives or government subsidies, whether IRBs or something similar. Bond authorities and planners can use this study to learn for themselves who generates jobs in their community. They should go beyond asking about the quantity of jobs and examine their quality with respect to wages and economic benefits.

Economic development programs change, but the dynamics of job generation, conceived by David Birch and others can and should be a vital part of any economic development program. Using this study, planners and economic developers can examine the effects future subsidy programs may have on job generation.

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