Industrial Development Bonds in Knox County, Tennessee: An Analysis of Their Impact on the Local Community

Timothy L. Leasure

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To the Graduate Council:

I am submitting herewith a thesis written by Timothy L. Leasure entitled "Industrial Development Bonds in Knox County, Tennessee: An Analysis of Their Impact on the Local Community." I have examined the final electronic 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, with a major in Management Science.

George E. Bowen, Major Professor

We have read this thesis and recommend its acceptance:

David A. Johnson

Accepted for the Council:

Carolyn R. Hodges

Vice Provost and Dean of the Graduate School

(Original signatures are on file with official student records.)
To the Graduate Council:

I am submitting herewith a thesis written by Timothy L. Leasure entitled "Industrial Development Bonds in Knox County, Tennessee: An Analysis of Their Impact on the Local Community." 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.

George E. Bowen, Major Professor

We have read thesis and recommend its acceptance:

Accepted for the Council:

Vice Chancellor
Graduate Studies and Research
INDUSTRIAL DEVELOPMENT BONDS IN KNOX COUNTY, TENNESSEE:
AN ANALYSIS OF THEIR IMPACT ON THE LOCAL COMMUNITY

A Thesis
Presented for the
Master of Science
Degree
The University of Tennessee, Knoxville

Timothy L. Leasure
June 1986
ABSTRACT

The purpose of this study was to create a methodology local governments could use in determining the impact of industrial development bonds on the local community. The areas of impact studied were water and sewer infrastructures and the cost of providing the services, highway capacities, property tax generation, and employment generation. Knox County, Tennessee was chosen as a general study area because of the interest local officials had in this topic and because data was readily accessible.

A cost/benefit analysis of the provision of water and sewer services, and impact analyses on infrastructure capacities, the property tax base and the local economy were employed in this study. Data from the companies involved in the study, and data from state and local governments was relied upon heavily. Personal interviews were also used to gather information.

The major findings of this research were, the industrial development bond financed firms had a beneficial impact on the community and Knox County lacks a community and economic development plan that corresponds to a local infrastructure development plan. Basic industries had the greatest impact on the local economy. This is due, in part, to the 1.99 income multiplier of the Knoxville economy. For every 100 dollars of basic industry income created directly, another 99 dollars of income is created indirectly.
With the exception of the apartment complex, none of the developments had a negative impact on the public infrastructure. The apartment complex was located on a street that was not designed to handle the volume of traffic that used it. The water systems generally had more excess capacity in their systems than did the sewer systems. The affected public schools were not overcrowded.

The impact on the County's tax base was greater than the impact on the City's tax base. Three of the four developments were located outside the Knoxville City Limits. The County benefited from the project located in the City but the City did not receive any tax revenue from projects located outside the City.

Permitting the development of the apartment complex on a street that could not handle the increased volume of traffic is an example of the lack of coordination between private development and public infrastructure development. Development should be encouraged in the areas where the infrastructure has excess capacity or the developer should be responsible for upgrading the infrastructure.

Future research may involve studying the impact government programs have had on competing businesses. Knowing the impact these programs have on a business will help in determining if these programs are providing an unfair advantage.
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CHAPTER I

INTRODUCTION

Industrial development bonds are obligations of state and local governments for the purpose of buying or building industrial, commercial and residential properties. There are two types of industrial development bonds - revenue and general obligation. Revenue bonds are supported entirely by the rents and mortgages generated by facilities. General obligation bonds are supported by the rents and mortgages of the facilities and the full faith and credit of the issuing government. General obligation bonds are limited in size to a percentage of the local property tax base by state statute or constitution.

The primary purpose of industrial development bonds is to create jobs in areas where there is a labor surplus.\(^1\) Industry is attracted to an area by providing lower finance costs to the industry than would normally be available through traditional money markets. Municipalities are able to provide funds to businesses at a lower rate because industrial development bonds are exempt from Federal income tax.

Current literature on industrial development bonds deals primarily with the costs on the national level and the benefits on the local level. The major cost on the national

\(^1\)Tennessee Code Annotated, 1980, Section 7-55-106 (5).
level is the loss of Federal income tax on interest for industrial development bonds. The benefits to the local economy are the increases in employment and property tax revenues. The costs, if any, are usually ignored. The impact on local streets by industrial development bond financed projects is another cost not addressed in current literature on industrial development bonds.

The literature has failed to address, adequately, the costs and benefits of industrial development bonds at the local level. The stress the new development places on existing infrastructure and the additional cost of providing services are not included in the costs normally associated with the use of industrial development bonds.

Since industrial development bonds are such a popular tool, a closer look at the impact that industrial development bond financed firms have at the local level is needed. This thesis will address the areas of fiscal and economic impact, and the impact developments have on streets, water and sewer systems and public schools. Knox County, Tennessee was selected as the study area because of the interest of local officials in this area.

This study is expected to show that there are costs at the local level associated with the issuance of industrial development bonds. It will reveal the capacity of local governmental units to plan for future development. This study will also illustrate the impacts different types of
developments have had on the Knoxville community.

A review of current literature, relevant court cases and legislative and administrative actions that have had an effect on industrial development bonds will be presented. A methodology for determining the impact industrial development bond financed firms have had on a community was developed. It was developed so local officials would have a workable tool to determine the impact industrial development bonds have had on their communities. Data used is readily available to local officials. The process used in Knox County for issuing industrial development bonds is presented to give those unfamiliar with the process a basic idea of how it works.

The data collected in this study will be presented so the reader can compare the impact each type of development had on different sectors of the community. The final chapter will present the conclusions drawn on the data collected and literature reviewed. Remarks will be included on some of the issues addressed in current literature and Tennessee enabling legislation.
CHAPTER II

LEGAL, LEGISLATIVE AND LITERATURE REVIEW

Industrial development bonds are a form of municipal bond issued to finance commercial or industrial expansion. Early Federal legislative action dealt with municipal bonds. Industrial development bonds were not mentioned in Federal regulations until 1954 by the Internal Revenue Service.

The Securities Act of 1933 was the first Federal legislation to deal with municipal bonds. The purpose of the 1933 Act was to regulate the public sale of new securities. The Act specifically exempted municipal securities from the disclosure requirements placed on private securities. The only provision in the 1933 Act that applied to municipal bonds was section 17(a). This section prohibited fraudulent schemes or devices or material misstatements or omissions in the offer or sale of securities.\(^2\)

The reason municipal securities were exempted from the 1933 Act is not clear. It may have been Congress felt the added cost of compliance would be more than local governments could afford and the lack of misrepresentations in the municipal securities market did not warrant regulation.

The next year Congress enacted the Securities and Exchange Act of 1934. The purpose of the 1934 Act was to insure the continuation of fair markets for securities by

providing for the regulation of security exchanges operating in interstate commerce. The only provision of the 1934 Act that applied to municipal securities was the section on fraudulent sale of securities.³

Congress first addressed the tax exempt status of government securities in 1939. Section 22 (b)(4) of the Internal Revenue Code states that gross income does not include interest on the obligations of a state, territory or political subdivision thereof.⁴

The first mention of industrial development bonds at the federal level was made by the Internal Revenue Service in Revenue Ruling #54-106. The Ruling states:

Bonds duly issued by or in the behalf of a municipality for the purpose of financing the acquisition or construction of municipally owned industrial plants for lease to private enterprises constitutes obligations of a political subdivision within the meaning of section 22 (b)(4) of the Internal Revenue Code. Interest on such bonds is exempt from Federal income tax...⁵

States often asked the Internal Revenue Service to rule on questions on how state legislation was affected by the

³Securities Exchange Act of 1934, 15 U.S.C. (1976) This is not a blanket exception as in the 1933 Act. For a security to be exempt it must be tested against each section of the 1934 Act.

⁴Section 22 (b)(4) of the 1939 Code is the same as section 103 (a)(1) of the 1954 Code.

Internal Revenue Code. Even though these rulings pertained to a specific piece of legislation, they formed guidelines by which other states drafted legislation. Revenue Ruling #57-187 was the response of the Internal Revenue Service to the state of Alabama concerning Title 37, Chapter 17 of the Code of Alabama. The Ruling states:

Bonds issued by an Industrial Development Board under Title 37, Chapter 17 of the Code of Alabama, are considered issued in behalf of a municipality... Interest received on such bonds is exempt from Federal income tax under section 103(a)(1) of the 1954 Code.  

The most recent Ruling by the Internal Revenue Service is #63-20. The rule states that for the purpose of section 103(a)(1) of the 1954 Code, obligations issued by a non-profit corporation formed under the non-profit corporation laws of a state for the purpose of industrial development within a political subdivision of that state will be considered on behalf of the political subdivision, if all of the following requirements are met:

1. Activities are public in nature
2. The corporation is not organized for profit
3. Corporation income must not inure to any private person
4. The government must have a beneficial interest in the corporation while bonds are outstanding
5. Approval by the state or local government of the

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corporation and the bonds said corporation has issued.  

During the late 1960's the Federal government saw problems associated with the use of industrial development bonds. The major problems were the loss of Federal income tax revenue and the disruption of the traditional municipal bond market. The demand for municipal bonds was considered as constant by Federal officials. With industrial development bonds taking a larger percentage of the municipal bond market, the Federal government felt that the industrial development bonds were crowding out local bonds needed for capital improvements.

In 1968 the Treasury Department proposed regulations that would remove the tax exempt status of industrial development bonds. These regulations never came into force because Congress adopted legislation that regulated the size and the use of industrial development bonds before the Treasury Ruling became effective. The legislation Congress adopted was the Revenue Expenditure and Control Act of 1968. The 1968 Act created section 103 (b) of the Internal Revenue Code which dealt specifically with industrial development bonds. The most important part of this act was that it

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8The Treasury Department postponed indefinitely the final hearing on the proposed regulation.
placed a ceiling of 1,000,000 dollars on most issues.\textsuperscript{9} Prior to the Act there was no limit to the size of the issue. The Act was later amended to raise the ceiling to 5,000,000 dollars over a six year period. The period covered three years prior to and three years after the present bond issue.\textsuperscript{10}

Also in 1968, The Securities and Exchange Commission made its first effort in regulating industrial development bonds. This effort was in the form of Rule 131 of the Securities Act of 1933 and Rule 3b-5 of the Securities Exchange Act of 1934, which were enacted to protect investors. These rules were identical. The Commission recognized that there were two separate phases in issuance of an industrial development bond. The first was the lending of a municipality's credit, and the second was the receiving of interest and principal by the holder of the bond. The former phase was still exempt from the registration and disclosure requirements of the 1933 and 1934 Acts, but the latter was considered a separate security and thus was regulated by the Acts.\textsuperscript{11}


\textsuperscript{10}Congressional Quarterly Almanac, Washington, D.C., Congressional Quarterly Inc., 1968, p279

The regulation of industrial development bonds by the Securities and Exchange Commission was short lived. In 1970 Congress intervened in the regulation of industrial development bonds by the Commission. Section 401 of the Employment Securities Amendments of 1970 virtually exempted all industrial development bonds from the registration provisions of the 1933 and 1934 Acts. Section 401 exempted those issues whose proceeds go for convention centers, parking facilities, wharves, mass commuting facilities, facilities for the provision of local utilities, airports, docks, pollution control facilities and small issue industrial development bonds under 5,000,000 dollars in the aggregate as defined in section 103(b)(6)(D) of the Internal Revenue Code. After Section 401 was enacted, Rules 131 and 3b-5 pertained to those non-exempt facilities whose bond issues are over 5,000,000 dollars.

During the period 1970-1975, the Securities and Exchange Commission uncovered an increasing amount of fraud in the municipal securities market. Even though the antifraud sections of the 1933 and 1934 Acts provided a basic amount of protection to investors, Congress felt stricter regulation of those dealing in municipal securities was needed. In 1975 Congress passed the Securities Acts

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12 This figure was raised to 10,000,000 dollars after 1978.

13 Hellige, p309
Amendments of 1975. This act required all municipal security dealers that were not registered to register under the 1934 Act. The Securities and Exchange Commission took this opportunity to deny registration to any party involved in a felony or misdemeanor involving the sales of securities.

The Amendment of 1975 also created the Municipal Securities Rulemaking Board. The purpose of the Board was to establish rules that would govern municipal securities dealers. Though the Board had the power to establish rules, it had no power to enforce them. Congress felt that it would be a duplication of services if the Board also had the power to enforce the rules. Existing agencies that would enforce the rules are the Securities and Exchange Commission (SEC), the Federal Deposit Insurance Corporation (FDIC), the Comptroller of the Currency, the Federal Reserve System, and the National Association of Securities Dealers Inc.14 The 1975 Act did not alter the exemptions of municipal issuers. The issuer still does not have to file a report prior to the sale of a municipal security.

In 1978 the Carter Administration tried to regulate the use of industrial development bonds. The Carter Administration wanted to limit the use of industrial development bonds

to distressed areas only. The Administration offered to raise the ceiling of small issues to 10,000,000 dollars, in certain cases, if Congress would limit the use to distressed areas. Congress was not willing to limit the use of industrial development bonds to targeted areas but was receptive to the increased ceiling for small issue industrial development bonds. The major difference between existing regulations and the Industrial Development Bond Act of 1978 was that the 1978 Act raised the ceiling of the bonds.

The next piece of legislation affecting industrial development bonds was the Tax Equity and Fiscal Responsibility Act of 1982. This act has had the greatest impact on industrial development bonds because it placed an end to the Federal tax exemption. As of December 1986, small issue industrial development bonds will no longer be exempt from Federal income tax. Other provisions of the Act have had a more immediate effect. Effective December 31, 1982 the following provisions took force:

1. the bond must be presented at a public hearing,
2. the bond issue must be approved by elected officials or voter referendum,
3. properties using industrial development bonds must take straight line depreciation (with the exception of low income housing and some other housing, municipal sewage and solid waste facilities, certain air and water pollution control facilities and certain facilities which involve the use of an Urban Development Action Grant),
4. facilities for which 25% or more of the proceeds of the bonds go towards auto sales and service,
recreation or entertainment, retail food or beverage service are not exempt from Federal income tax.\textsuperscript{15}

The Deficit Reduction Act of 1984 pushed back the end to the federal tax exemption for manufacturing facilities to December 31, 1988. The 1984 Act also placed a limit on the total value of bonds issued in a state. The limit was set at 150 dollars per capita. The population figures were taken from the latest population census. This act also placed a 40,000,000 dollar maximum on the aggregate value of bonds issued to a company. The maximum amount includes all industrial development bonds issued in the United States. Once a company is the beneficiary of 40,000,000 dollars of industrial development bonds, all interest paid on bonds issued afterwards is subject to federal income tax. Bonds issued prior to this act can not be taxed even if the aggregate was over 40,000,000 dollars (grandfather clause).\textsuperscript{16}

Federal Judicial Cases

The opinion of the Supreme Court has been known to change, especially from one court to the next. This is true in the case of industrial development bonds. The first precedent setting case was Citizen's Savings and Loan

\textsuperscript{15} Tax Equity and Fiscal Responsibility Act of 1982, U.S Code, Title 26, section 214 a-c,1982

\textsuperscript{16} Deficit Reduction Act of 1984, U.S Code, Title 26, section 221, 1984
Association v. Topeka. In accord with Kansas enabling legislation, the city of Topeka issued 100,000 dollars of its bonds to attract an iron works to the city. The action was brought about after the bonds defaulted. The legal question in the case was the authority of the Kansas legislature to pass the enabling legislation. The opinion of the Court was since there were no funds set aside to pay the bonds, the city would have to use tax revenues to pay off the bonds. The court held that tax revenues could only be used for a 'public purpose' and the financing of a private manufacturer was not a public purpose. The bonds were void.

The decisions of the next two cases to appear before the court were determined by the precedent set in the above case. In Parkerburg v. Brown the holders of certain defaulted bonds brought suit to recover interest and principle due. The bonds were issued in accordance with West Virginia legislation allowing cities to lend its credit to manufacturers locating in the cities. The bonds in question were secured by a deed of trust on the property. The firm went bankrupt and the city failed to enforce the deed of trust. The plaintiffs asked the Court to award them the property and deficiency payments from the city. As in

17"Citizen's Savings and Loan Association v. Topeka", 87 U.S. 655 (1875)

the 'Topeka' case, the Court ruled the legislation invalid and the bonds void. The Court stated:

There was no provision in the Constitution of West Virginia of 1862 authorizing the levying of taxes to be used to aid private persons in conducting a private manufacturing business. This being so, the legislature has no power to enact the act of 1868.\(^\text{19}\)

The last case for which the precedent of the 'Topeka' case was cited was Cole v. LaGrange.\(^\text{20}\) The case questioned a Missouri act authorizing a city to lend its credit to railroad and manufacturing concerns. The Court stated:

The general grant of legislative power in the Constitution of a state does not enable the legislature, in the exercise... of the right of taxation, to take private property, without the owner's consent, for any but a public object. Nor can the legislature authorize counties, cities or towns to contract, for private objects, debts which must be paid by taxes. It cannot, therefore, authorize them to issue bonds to assist merchants or manufacturers... in their private business. These limits of the legislative power are now too firmly established by judicial decisions to require extended argument upon the subject.\(^\text{21}\)

All of the decisions rendered by the Court after the 'LaGrange' case were as a result of test cases. The prior cases were ones in which the plaintiffs were trying to

\(^{19}\)"Parkerburg v. Brown", p501

\(^{20}\)"Cole v. LaGrange", 113 U.S. 1 (1885)

\(^{21}\)"Cole v. LaGrange", p6
recover damages. The Court also began to reverse its position as to the validity of state legislation which authorized lending a city's credit to private concerns. The 1896 case of Fallbrook Irrigation District v. Bradley\textsuperscript{22} was brought forth to test the constitutionality of a California act that created an irrigation district and placed special assessments on property within the district. The Court stated that they had no right in ruling on a question of constitutionality if the highest court of the state had upheld the act in question, under the pretext of principles of general constitutional law. The Court also stated:

\begin{quote}
If the act violates any provision, expressed or properly implied, in the Federal Constitution, it is our duty to so declare it; but if it does not, there is no justification for the Federal courts to run counter to the decisions of the highest state courts upon questions involving the construction of state statutes or constitutions, or any alleged ground that such decisions are in conflict with sound principles of general constitutional law.\textsuperscript{23}
\end{quote}

As a result of the 'Bradley' case, the precedent of the 'Topeka' case had been cast aside.

In 1917, the case of Jones v. Portland\textsuperscript{24} came before the Court. The case pertained to a state act authorizing

\begin{itemize}
\item \textsuperscript{22}"Fallbrook Irrigation District v. Bradley", 164 U.S. 112 (1896)
\item \textsuperscript{23}"Fallbrook Irrigation District v. Bradley", p155
\item \textsuperscript{24}"Jones v. Portland", 245 U.S. 217 (1917)
\end{itemize}
any municipality to establish city owned coal and fuel yards where the yard could be sold at cost. Portland had voted to do so and was going to raise necessary funds through a tax increase. The Court upheld the act. More important though, the Court took a stand as to how it planned on addressing the issue of public purpose.

While the ultimate authority to determine the validity of legislation under the Fourteenth Amendment is rested in this court, local conditions are of such varying character that what is or is not a public use in a particular State is manifestly a matter respecting with local authority, legislative and judicial, has peculiar facilities for securing accurate information. In that view the judgement of the highest court of the State upon what should be deemed a public use in a particular State is entitled to the highest respect.25

In the cases following Jones v. Portland the Court supported their position that it was up to the states to determine public purpose. The question in Green v. Frazier26 was whether North Dakota legislation could create a state industrial commission to operate several businesses. The capital for the commission would be raised through bond issues backed by the full faith and credit of the State. The Court noted that the Fourteenth Amendment restricted the right to tax for public purpose. Since the people, legislature and courts of North Dakota had declared these acts as

25"Jones v. Portland", p221

26"Green v. Frazier", 253 U.S. 233 (1920)
public purpose, the Court felt it was not at liberty to interfere unless the Federal Constitution has been violated.

In 1937 the Court heard Carmichael v. Southern Coal & Coke Company.\(^27\) The Court, in a landmark decision, upheld the Alabama State Unemployment Compensation Act. The Act was based on Federal standards. The importance of the Act was that for the first time the relief of unemployment was considered a public purpose for which taxes could be levied. The Court stated:

> Expenditure of public funds under the present statute, for the relief of unemployment, will afford some protection to a substantial group of employees, and we cannot say that it is not for a public purpose.\(^28\)

The final case to reach the United States Supreme Court was Albritton v. City of Winona.\(^29\) Albritton was a test case of a Mississippi statute authorizing the issuance of industrial development bonds. The statute was upheld by the Mississippi Supreme Court and was taken to the United States Supreme Court by appeal. The Court dismissed the case citing 'Jones', 'Green', and 'Carmichael'. The Court said States have the power to determine what is of public purpose

\(^{27}\)"Carmichael v. Southern Coal and Coke Company", 301 U.S. 495 (1937)

\(^{28}\)"Carmichael v. Southern Coal and Coke Company", p518

\(^{29}\)"Albritton v. City of Winona", 303 U.S. 627 (1938)
(Jones & Green) and how to attack a public evil (Carmichael).

Over a period of sixty-three years, the position of the Court had reversed itself. In 'Topeka' the Court did not cite any constitutional restrictions, but rather gave their ruling based on their perception of what government could do. In 'Albritton' the Court ruled that the states knew best what constituted public purpose, and how a state should go about removing public evils.

Tennessee Enabling Legislation

There are three pieces of legislation in Tennessee that enable the use of industrial development bonds. The Industrial Building Revenue Bond Act (1951) enables municipalities to issue revenue bonds to purchase or construct industrial buildings. The Industrial Building Bond Act of 1955 permits municipalities to issue general obligation bonds for the purpose of purchasing or constructing industrial buildings. The Industrial Corporations Act (1957) makes it possible for a nonprofit corporation to issue revenue bonds, on the behalf of a municipality, for the construction or purchase of commercial facilities. The purpose of the acts is to relieve unemployment and to promote industrialization in the state.

There are eight sections of the Industrial Building

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30Commercial facilities include everything from rental housing to heavy industry.
Revenue Bond Act that are of major importance.

1. Power of the Municipality - A municipality can construct, purchase, receive by gift, or improve an industrial building in the political subdivision or within ten miles of the subdivision. It can issue bonds to finance all or part of the acquisition, construction, or reconstruction of any industrial building. The municipality can rent or lease a facility for the amount sufficient to pay the principal and interest of the bond. It can convey in trust any industrial building to the holder(s) of the bonds or it can sell the industrial building(s).

2. Exemption from State Regulation - It is not necessary for the state to authorize the issuance of a bond prior to its sale. The issuing body must do so within sixty days of the sale.

3. Issuance of Bonds Authorized - The governing body is authorized to issue bonds for construction, purchase or betterment of an industrial body. The life of the bond can not exceed forty years.

4. Covenants Permissible in Bonds - The covenants may include restrictions on rentals, maintenance of the structures, the right of the bond holders to receive payment from rents, the issuance of bonds to be secured by a mortgage or deed of trust, and other bonds may be issued to retire previous bonds.

5. Bonds not General Obligation - The bonds issued pursuant to this act are not backed by the taxing power of the issuer, nor is it considered as part of the issuer's debt.

6. Election Required - For a bond to be issued, three fourths of those voting on the issue must approve it.

7. Tax Exemption of Bonds - All income derived from these bonds shall be exempt from all state and local taxes.

8. Rentals Sufficient to Pay Bonds - Rentals shall be adequate to cover all principal and interest as well as a sinking fund.

The Industrial Building Bond Act of 1955 is similar to
the Industrial Building Revenue Bond Act. They are both used to finance the construction or purchase of a facility. Both use rents from the facilities to pay the principal and interest of the bonds. Income derived from both types of bonds is exempt from state and local taxes. Three fourths of those voting on an issue must approve of it before it can be sold. The difference is in the type of bond each act enables. The Industrial Building Bond Act of 1955 enables municipalities to use their credit, in the form of general obligation bonds, to finance industrial facilities. Under this act a certificate of public purpose must be presented to the State. Before the State will accept a certificate certain conditions need to exist. The conditions are:

1. in the case of industrial buildings there should be sufficient natural resources economically available for the maturity period of the bond;

2. a ratio of one and one half unemployed workers in the area for each job created;

3. the bond debt, as authorized by this act, shall not exceed ten percent of the total assessed property value within the political subdivision.

Under the 1955 Act the bonds are secured by rents of the facilities and the taxing power of the issuing body.

The Industrial Development Corporation Act is different from the previous acts in that it authorizes the creation of nonprofit corporations for the purpose of issuing industrial development bonds to construct, purchase, or rebuild an employment producing facility, to increase the quality of housing, and/or to control pollution.
For a corporation to be created, three registered voters of a political subdivision must make an application to the governing body of that political subdivision. If the local governing body accepts the application, a certificate of incorporation can be placed with the Secretary of State. The certificate must include the names and addresses of the applicants, the name of the corporation, proof of application, location of the corporate office, purpose of the corporation, the number of directors and the duration of the corporation. If there are no irregularities with the certificate, the Secretary of State shall approve the certificate of incorporation and the applicants shall become a public corporation.

The powers of an industrial development corporation are similar to those granted to municipalities by the other two acts. A corporation can buy, improve, lease and sell properties pursuant to this act. The corporation is to arrange security of payment of interest and principal through revenues generated by the project and by mortgage of said projects. The corporation can not pledge the taxing power of the political subdivision. A municipality can pledge its full faith and credit to a bond issued by the corporation. All meetings conducted by the corporation must be opened to the public. The corporation can issue bonds and borrow money to carry out any of its powers.

All bonds issued for projects are paid by the revenue
generated by the project, except as otherwise provided. The maturity of a bond can not exceed forty years. All bonds are secured by the revenue from rents and mortgages or deeds of trust. In the case of a default the provisions for default will be enforced.

As a public corporation, it is exempt from all local and state taxes. All projects that are leased from the corporation shall have in-lieu payments made in place of the fair market ad valorem taxes that would be applicable if the project was privately owned.

Tennessee Court Cases

Prior to the Industrial Building Revenue Bond Act was a private act that authorized the use of general obligation bonds in Lebanon, Tennessee to finance the construction of a factory for a private concern. The private act was held unconstitutional in the case of Ferrell v. Doak because it failed to pass the public purpose test.

There are three Tennessee Supreme Court cases on industrial revenue bonds that are of major importance. The first case was Holly v. City of Elizabethton. This was a declaratory judgement testing the constitutionality of the Industrial Building Revenue Bond Act. The bond issue in

31"Ferrell v. Doak", 275 S.W. 2nd 29 (1925)

32"Holly v. City of Elizabethton", 241 S.W. 2nd 1001 (1951)
question was a 4,000,000 dollar issue to be used to purchase a site and construct a building for Textron Inc. Two areas of the Act were examined for constitutionality. The first one concerned whether the Act authorized a municipality to extend credit for a private purpose (citing Ferrell v. Doak). The second question was whether the Act purported to authorize a municipality to extend credit to a private concern without approval of three-fourths of the voters voting on this issue. The Court's answer to the first question was that all of the bonds issued stated that the holder had no legal right to compel the municipality to use its taxing powers for the payments of any part of said bonds. The bonds were not an indebtedness of the municipality within the meaning of any constitutional or statutory provision, so Ferrell v. Doak did not hold in this case. In response to the second question, the court stated that it was not pertinent since there was a vote on the issue that passed.33

McConnell v. City of Lebanon34 was also a case for which a declaratory judgement was sought. The case involved a bond issue of 350,000 dollars for the construction of a manufacturing facility for Hartman Luggage Company. The plaintiff in the case claimed that the Industrial Building

33"Holly v. City of Elizabethton" p1003

34"McConnell v. City of Lebanon", 314 S.W. 2nd 12 (1958)
Bond Act of 1955 violated Article 2, section 29 of the Tennessee Code which states:

Counties and incorporated towns have the authority to impose taxes for County and Corporation purposes respectively...the credit of no County or Corporation shall be given or loaned to any person, company, association or corporation except upon an election with 3/4 approval.\(^{35}\)

The Tennessee Supreme Court ruled against the plaintiff. In their opinion the Court stated that because of mechanization of agriculture, country people are forced to move to the cities and to the industrialized north in search of employment. The issuance of bonds under the 1955 Act was for the purpose of attracting industry to areas with a labor surplus. Providing jobs for one's residence was a corporate purpose and thus not a violation of Article 2, section 29.

The case of West v. Industrial Development Board of Nashville\(^{36}\) was a friendly action testing the rights of the complainant to execute a certain lease agreement with the defendant under the Industrial Development Corporation Act. The complainant claimed that the Act violated sections 17, 28 and 29 of Article 2 of the Constitution of the State of Tennessee.

Section 17 pertained to the legislative intent and

\(^{35}\)"McConnell v. City of Lebanon", pl4

\(^{36}\)"West v. Industrial Development Board of Nashville", 332 S.W. 2nd 201 (1960)
purpose of the Act. The Court ruled that "all parts of the act were germane to the object and purpose of the act, therefore the act was not broader than its intent and is not unconstitutional."37

The question of taxation was raised in the case of section 28. This section requires all property, with the exception of exempt property, to be taxed. The Court held that since the property was owned by the city, it was not subject to taxation. The Court also ruled that development corporations were instruments of municipalities and should be entitled to the same exemptions as municipalities under Article 2, section 28.

The complainant claimed that the Act did not provide for a referendum vote on bonds issued pursuant to the Act. The Court ruled that since the full faith and credit of the municipality was not backing the bonds, a referendum vote was a moot point, and thus section 29 was not violated.38

Types and Uses

An industrial development bond can take the form of either a general obligation bond or a revenue bond. A general obligation bond is a bond issued by a municipality or a state to build or acquire properties for the purpose of

37 "West v. Industrial Development Board of Nashville", p201

38 "West v. Industrial Development Board of Nashville", p201
generating employment. The issuing body promises the repayment of the bond with the full faith and credit of the municipality or state as well as the rents from the project. The municipality's debt limit is restricted by the state. The limit is usually a percentage of the value of taxable properties within the jurisdiction of the municipality. A state's debt is limited by either its constitution or by statute. The debt incurred by issuing a general obligation bond is considered part of the overall debt of the issuing body.

Revenue bonds are issued by a municipality, state or a nonprofit corporation that is operating with the approval of the state or municipality. Revenue bonds are issued to build or acquire properties for the purpose of generating employment. The bonds are not backed by the full faith and credit of a municipality or state. They are backed by the income generated by the project.

There are several ways industrial development bond financing can be arranged. Where a governmental body owns the property in question, it can enter into either a leasing or selling arrangement with a corporation. Under the lease agreement, the issuer of the bond leases the facility to a corporation. The corporation would have the option to purchase the facility at the end of the rental period at a nominal cost. Under a sales agreement, a corporation purchases the property with the proceeds from the sale of
the bonds. When the governmental body does not own the property, it can enter into a lease—lease back agreement or a loan agreement. In a lease—lease back agreement the governmental body issues bonds for the purchase or construction of a facility. The corporation leases the facility to the governmental body and the governmental body leases it back to the corporation. This arrangement provides the corporation with low cost financing, interest which is deductible on federal income taxes and lease payments which are considered a cost of doing business and are also deductible. Under a loan agreement the governmental body loans the corporation the proceeds from the sale of the bonds. Under this agreement only the interest is tax deductible.39

Each state is different in the way it permits industrial development bonds to be used. Pinsky categorized states' plans for using industrial development bonds into four general models.40

The Mississippi Plan: Municipally Owned Plants Financed by General Obligation Bonds. Under this plan, any municipality may issue general obligation bonds if (1) the program is approved by a vote of the community's electorate, (2) an


appropriate state agency certifies the city as having sufficient natural resources and labor to support the proposed industry, and (3) this agency finds that the project promotes the economic goals of the enabling statute. Such a plan places the center of initiation and control at the local level.41

The Kentucky Plan: Municipally Owned Plants Financed by Revenue Bonds. After 1946, a number of states, acting on the Mississippi example, enacted statutes authorizing the municipality to issue revenue bonds. The overall plan is very similar to the one discussed above. The primary distinctions between this plan and the earlier Mississippi plan are (1) the shift in the burden of repayment from the full faith and credit of the city to the tenant, and (2) the lack of any central authority required to examine the financial soundness of the proposed scheme. A sub-classification of this approach has been identified among those states which insert a public corporation or authority between the municipality and the industry. It is the public authority that issues the bonds, constructs the facilities, and leases the premises.42

The Pennsylvania Plan: Second Mortgage Loans Financed by Current Taxation. Those states utilizing this plan authorize a local non-profit industrial development corporation to construct a plant for long term lease to an industry. The development corporation finances the operation by securing a first mortgage of 50% from commercial sources, a second mortgage of 30% from the State Industrial Development Authority (which is financed by appropriations from current state revenues),

41Pinsky, pp266-268

42Pinsky, pp266-268
and by sale of securities for the remaining 20%.⁴³

The New England Plan: State Insurance of First Mortgages. As with the Pennsylvania plan, a local non-profit development corporation builds and leases the facilities in this approach originating with a few New England states. The construction is generally financed by loans from private investors secured by long-term mortgages covering up to 90% of the cost. The program is insured by the pledge of the state's own credit.⁴⁴

These models would indicate that northern states encouraged the use of conventional investment sources, while providing guarantees for the loans. Southern states, on the other hand, created new sources for investment funds. This could have been due in part to the shortage of investment funds in the region before and after World War II.

Initially, industrial development bonds were used to finance the construction of manufacturing facilities during the Great Depression. Presently, the use of industrial development bonds is as varied as there are types of development. The major influence upon the uses that states permit is section 103 of the Internal Revenue Code. In the Internal Revenue Code industrial development bonds are described as an obligation which is used directly or

⁴³Pinsky, pp266-268

⁴⁴Pinsky, p268
indirectly in any trade or business. More specifically, the Internal Revenue Code permits industrial development bonds to be used to develop residential rental properties, retail and wholesale facilities, warehouses, sport facilities, convention facilities, transportation facilities, pollution control facilities and manufacturing facilities.

Southern states are less restrictive than northern states in the types of uses that industrial development bonds can be used for. Tennessee permits industrial development bonds to finance nearly everything but single family dwellings. Minnesota does not permit industrial development bonds to be used for housing or for property that would be sold (speculative properties). Massachusetts only issues bonds for industrial concerns.

Issues

The use of industrial development bonds has always been a controversial topic. In 1963, the Advisory Commission on

45 Internal Revenue Code 1981, section 103 (b)(2)(A)

46 All three pieces of Tennessee enabling legislation prohibit the use of industrial development bonds for this purpose.


Intergovernmental Relations made recommendations to control abuses of industrial development bond financing.\(^49\) This is not to say that there are not strong advocates of industrial development bonds. Senator Alfonse D'Amato (R-NY) told the Senate Finance Committee:

> With today's continued high interest rates, small businesses cannot thrive or even survive, without the low cost financing made available through industrial development bonds.\(^50\)

Even with such support, small businesses still have problems with access to industrial development bonds. If the bonds are general obligation bonds, the issuing body may not wish to take the risk of financing a new or small firm that has no proven track record. A default on bond payments would leave the issuing body the responsibility of retiring the debt. If the bonds issued are revenue bonds, investors may be unwilling to risk their capital with unproven firms unless a very high return can be promised. Many small businesses can not afford to pledge this kind of return. Revenue bonds are best suited to large firms with good credit ratings. The better the credit rating of the firm receiving the industrial development bond, the lower the interest rate will be. This is because the bond is actually

\(^49\)Advisory Commission on Intergovernmental Relations, Industrial Development Bond Financing A-18, Washington, D.C., 1963

\(^50\)Fessler, p673
sold on the credit rating of the firm. Large firms receiving industrial development bonds include Goodyear Tire and Rubber Company, McDonald's and K-Mart.  

Five main issues are repeatedly referred to in the literature. They are the appropriateness of providing subsidies to private businesses, fiscal impacts, effectiveness in bringing about economic development, costs to municipalities and the criteria for issuing the bonds.

Proponents and opponents agree that industrial development bonds are a subsidy to industry. However, they are not the only subsidy that industry receives from the government. Other subsidies include price supports, government purchase of excess goods, domestic production of goods purchased with federal funds, low cost loans and tax incentives.

The issue of the effect industrial development bonds have on federal taxes is hotly debated. The Secretary of the Treasury estimated that the federal government would lose over 1,600,000,000 dollars in tax revenues in fiscal year 1982. Others have argued that the loss in revenue is negligible. If there is a 6% interest rate, a 30% marginal

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52 Fessler, p672
tax rate and 1,200,000,000 dollars in outstanding industrial development bonds, the tax loss to the federal government would equal 21,000,000 dollars. That would be equal to 3/1000 of 1% of all corporate and individual taxes collected in 1965.\(^5\) It is not clear that as interest rates and the volumes of bonds increase, the impact on the federal government is any greater. Some proponents of industrial development bonds claim that the increased taxes due to the new employment generated offset any losses the federal government incurs due to the tax exempt status of the bonds.

The effectiveness of industrial development bonds depends on what measure of effectiveness is used. Most enabling legislation describes the purpose of industrial development bonds as the 'alleviation of unemployment.' Two measures of this are the creation of jobs in general, and the alleviation of unemployment in certain socio-economic groups and geographic areas (targeting). One question raised is whether industrial development bonds are necessary to attract a business to an area. In a study of 26 companies located in eight southern and mid-western states, 20 of those firms would not have expanded without industrial

development financing. In a 1961 study of 5,000 firms, the traditional market forces of labor and raw materials were the most important factors influencing location. Financial aid was on the bottom of the list of reasons for a firm locating in a particular community. A 1980 study from the Joint Center for Urban Studies concluded that by using industrial development bonds, governments are rewarding firms for doing what they would normally do.

The second measure of effectiveness is targeting. Are industrial development bonds used in the areas of highest unemployment? Are the jobs created the type that would help the most distressed segments of the population? These questions were raised in a 1982 study of the Ohio industrial development bond program. This study concluded that those counties having the highest unemployment rates did not use industrial development bonds. The report also examined two urban counties to determine the types of jobs created. The results showed that the jobs created were not targeted to

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56 Fessler, p674

the lower income sector of the population.\textsuperscript{58}

Costs to a municipality can increase through additional operating costs, infrastructure costs and through increased interest rates. It is understood that additional development will increase operating costs of a municipality. In many instances, costs can not be assigned to a specific development.

Opponents of industrial development bonds claim that in many cases a development will increase infrastructure costs, either directly or indirectly. An extreme case of increased infrastructure costs is that of Lewisport, Kentucky. Lewisport was a town of 640 people before the town issued bonds to build a new aluminum mill. The infrastructure could not handle the increased demand placed upon it due to the influx of new workers. The issuance of 50,000,000 dollars in bonds for the mill made it difficult to secure additional funding. The town had to increase the interest rate on its bonds to attract investors.\textsuperscript{59}

The use of industrial development bonds has increased dramatically over the last 30 years. In 1952, 8,800,000

\textsuperscript{58}Pascarella, p83

dollars in bonds were issued.\textsuperscript{60} By 1968, the volume of industrial development bonds nationwide had increased to 1,500,000,000 dollars.\textsuperscript{61} A Congressional Budget Office estimate of the 1980 industrial development bond volume was placed at 8,400,000,000 dollars.\textsuperscript{62} In 30 years, the volume of industrial development bonds increased nearly 1,000 times.

Some opponents to industrial development bonds claim that with a limited demand for municipal bonds, the higher yielding industrial development bonds have crowded out the lower yielding capital improvement bonds of cities, states, counties and special districts. The introduction of industrial development bonds into the municipal bond market did not create the imbalance in the bond market, but merely aggravated the condition.\textsuperscript{63} One effect of this condition is higher interest rates. The Municipal Finance Officers Association (MFOA) estimated that each 1,000,000,000 dollars of industrial development bonds raised municipal bond interest rates by three to five basis points. As a result

\textsuperscript{60}Susan R. Robinson, "Industrial Development Bonds: They're Not What They Used To Be", Business Review, Philadelphia, Pennsylvania, Federal Reserve Board, March 1969, p4

\textsuperscript{61}Robinson, p4

\textsuperscript{62}Fessler, p672

\textsuperscript{63}Robinson, p6

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of the bonds issued in 1981, city and state interest payments could be approximately two to three billion dollars higher by 1993.\textsuperscript{64}

Most state and local governments are not very selective when it comes to providing industrial development bond financing. Some areas use the broad language of the enabling legislation as their only criteria in issuing the bonds.\textsuperscript{65} The criteria used in Michigan is typical of what many states use. The criteria is:

1. the bonds must conform to the enabling legislation
2. rental or lease revenue must be sufficient to cover interest and principal payments of the bonds
3. the amount of the issue is sufficient for the proposed development.\textsuperscript{66}

Maine is more aggressive in regulating the use of the bonds than many states. The regulating body in Maine is the Maine Guarantee Authority. The criteria by which a development seeking financing is measured against is:

1. The project will make a significant contribution to the economic growth to the state;
2. The project will not create a competitive advantage to any party to a contract entered into by any municipality under

\textsuperscript{64} Fessler, p674

\textsuperscript{65} Knox County uses the broad language of the Tennessee enabling legislation as its criteria.

\textsuperscript{66} Michigan Statutes Annotated, Vol. 46, Title 5 section 3533 (33)
this chapter or substantial detriment to existing industry;

3. Adequate provisions are being made to meet any increased demand upon public facilities that might result from such projects; and

4. In cases where it is proposed to relocate an industrial...facility in the state, there is a clear economic justification for such relocation.67

In addition to complying with the statute, The Authority may disapprove a bond issue if it thinks that the municipality is overextending itself.68 In the cases of Michigan and Maine, the criteria was set by statute. Unofficial criteria or guidelines may be used to aid public officials in the issuance of industrial development bonds.

In 1968, the city of Wichita, Kansas adopted an unofficial criteria against which firms seeking industrial development bond financing are measured. The criteria is:

1. Financial Responsibility - The tenant industry should be one with substantial proven financial responsibility.

2. Type of Tenant Industry - The nature of the tenant's business should be such that its establishment or expansion will give measurable growth to the community's economic base.

3. Nature of Improvements to be Financed - Most projects should be restricted to

67 Maine Revised Statues Annotated, Vol. 14A, Title 30 section 5328

those in which land and real improvements only are to be financed from the bond fund.

4. Marketing of the Bond—Since the City's financial reputation can be affected, it would not be wise to attempt to offer bonds that could not be successfully marketed. Some kind of showing should be made that an investigation has been made by the tenant to obtain conventional financing. Purchase of all or any part of the bonds by the tenant should not be allowed.

5. Measure of Economic Growth and Benefits—The tenant should be one with a substantial part of its products being exported from the Wichita area. The project should be one that substantially increases the number of jobs in the community, particularly in the skills and fields which have a surplus of workers. 69

Summary

The regulation of industrial development bonds at the federal level has been led by the Supreme Court and the Executive Branch. The Court first ruled in favor of industrial development bonds in 1896. The Court found the uses of industrial development bonds permissible if the state supreme court ruled in favor of the use and if the issuance of said bonds did not violate the United States Constitution.

The Internal Revenue Service was responsible for the development of state legislation enabling the use of industrial development bonds.


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industrial development bonds. States would submit pieces of legislation to get the IRS's ruling on the tax exempt status of the bonds issued under said legislation.

In 1968, the Treasury Department proposed regulations that would remove the tax exempt status of industrial development bonds. Congress circumvented these regulations by passing legislation that restricted the use of industrial development bonds. Also in 1968, the Securities and Exchange Commission placed restrictions on the sale of industrial development bonds. This was short lived because in 1970, Congress exempted the sale of industrial development bonds from the SEC's ruling. Between 1970 and 1975, the SEC had uncovered an increasing amount of irregularities in the sale of industrial development bonds. Congress passed an act in 1975 requiring all municipal security dealers to register with the SEC. The SEC denied registration to any dealer convicted of a misdemeanor or felony in conjunction with the sale of municipal securities.

The Carter Administration wanted to limit the use of industrial development bonds to 'distressed areas' but Congress would not cooperate. In 1982, the Reagan Administration was able to restrict the use of industrial development bonds. The 1982 legislation placed a termination date of December 1, 1986 on the tax exempt status of industrial development bonds.

Tennessee has three pieces of industrial development
bond enabling legislation. The legislation enables the issuance of revenue bonds, general obligation bonds and the creation of local industrial development boards. All legislation was tested in the Tennessee Supreme Court. The general obligation bonds are backed by the taxing power of the issuing body. Revenue bonds are backed only by the revenues generated by the development.

The southern states have been less restrictive in the use of industrial development bonds than have northern states. Southern states are more willing to provide direct financing to a development and they are less selective in the types of development they finance. Northern states tend to provide more indirect financing through channels such as loan guarantees.

The major issues dealing with industrial development bonds have been the costs to governments in the use of these bonds. Some opponents claim that the federal government is losing a great deal of income tax revenue due to the bonds' tax exempt status. Others claim that this lost revenue is made up in increased income tax revenues of those employed in the new development. Opponents also cite the higher interest costs local governments have to pay on capital improvement bonds due to the 'crowding out' effect that industrial development bonds have in the municipal bond market.

Chapter III provides background information on the
Industrial Development Board of Knox County. It also reviews the process used in Knox County relating to the issuance of industrial development bonds.
CHAPTER III

INDUSTRIAL DEVELOPMENT BONDS IN KNOX COUNTY

The Industrial Development Board of the County of Knox, Tennessee is a non-profit corporation established and operated pursuant to section 7-53 of the Tennessee Code Annotated. The Board was recorded as a public corporation July 18, 1966. For the period of October 1966 through August 1981 the Industrial Development Board of the County of Knox issued over 157,000,000 dollars in revenue bonds. The issue types for that period were manufacturing (31.7% of all issues), office buildings (20%), retail (16.5%), distribution (16.5%), restaurants, hotels and recreation centers (10.2%) and apartments (5.1%).

Tennessee State Attorney General, William Leech, issued an opinion in January 1983 stating that Tennessee law does not prohibit more than one industrial development board per county. The Industrial Development Board of the City of Knoxville was created in January 1983. The Industrial Development Board of the City of Knoxville is also operated pursuant to section 7-53 of the Tennessee Code Annotated.

70 J. Sidney Downey, Knox County Industrial Revenue Bond Analysis 1966 - 1981, 1981, Table Three


72 "Competing Industrial Boards Found Legal", pB-13
The opinion of Attorney General Leech also opened the way for Farragut, Tennessee to create an industrial development board.

This opinion was issued due to a request by Assistant Knox County Law Director, Geoffrey Emery. The request was made in response to the section of the Tax Equity and Fiscal Responsibility Act of 1982 that required hearings and approval of bond issues by elected officials or by voter referendum as of December 31, 1982. It was the feeling of some public officials that there was a need to be able to control development within their own political sphere. Douglas Morrison, the City Board's attorney stated the city would not be in control of its own destiny if the County Commission would review bond issues for projects located in the city.\textsuperscript{73} Even though this would allow the Boards to issue bonds for projects within their respective jurisdictions, either Board could issue bonds for projects anywhere in the county.\textsuperscript{74}

The process for issuing bonds by the Industrial Development Board of the County of Knox has four major steps: application, hearings by the Board, hearing by the

\textsuperscript{73}"Competing Industrial Boards Found Legal", pB-13

\textsuperscript{74}If rejected by one Board, a firm could apply to the other Board.
County Commission and the issuance of the bond.\textsuperscript{75} The party seeking industrial bond financing must submit an application and financial statement to the Secretary of the Board and to each director at least twenty days prior to the next scheduled Board meeting. A 325 dollar application fee is due at the time the application is filed with the Board. The information that must be included in the application includes:

1. Date
2. Project name
3. Party seeking financing (if a partnership, all parties should be included)
4. Amount requested
5. Estimated project cost & breakdown
6. Procedure for the sale of bonds (private v. public)
7. Purchaser
8. Guarantor
9. Fiscal agent
10. Attorney
11. Trustee
12. Description of project.\textsuperscript{76}

The financial statement that accompanies the application

\textsuperscript{75}Personal interview with Joel Connell, Secretary/Treasurer of the Industrial Development Board of Knox County, May 12, 1983.

\textsuperscript{76}Application form, Industrial Development Board of Knox County.
must include the applicant's financial summary for the past five years, a current audit and a three to five year financial projection of the applicant.\textsuperscript{77}

A proforma statement of the project is not required in the application.\textsuperscript{78} The application states that the applicant, not Knox County, would be obligated to retire the entire principal and interest due on all bonds. The application also states that the issuer is in no way liable for any part of the bond debt.

The second step of the process consists of two open hearings before the Industrial Development Board. Public notice of the hearings must be placed in the local newspapers prior to the hearings. The first hearing consists of the report of the project by the applicant and comments on the project by the public. The applicant must be present at all hearings.\textsuperscript{79} If an applicant is unable to attend a hearing he/she can request a postponement. The Board may or may not grant a postponement.

There is a 30 day grace period between the first and second hearing. The second hearing is used to accept or reject an application. If an application is rejected, the reasons for doing so are stated. An applicant can make

\textsuperscript{77}Application form
\textsuperscript{78}Joel Connell
\textsuperscript{79}Joel Connell
corrections to a rejected application and reapply to the Board. Accepted applications are sent to the County Commission with the Board's recommendation for acceptance. A hearing on an application by the Knox County Commission is the third step in the bond process. The hearing is usually held during a regular Commission meeting. A special hearing can be requested by the applicant. Approval of an application by the County Commission is usually automatic. The automatic approval is based on the assumption that there are no costs to the county. ⁸⁰

The final step in the process is the issuance of the bonds. The legal agreement is drawn up by the counsels for the Board and the applicant. The document includes all the requirements set forth by Tennessee statutes. Any agreement that violates any Tennessee statute or section of the Tennessee Constitution is invalid and can not be brought into force.

Once the agreement is completed the bonds are sold. ⁸¹ This is handled by the trustee selected by the applicant. Most bonds are sold privately. The Board will not issue bonds that are to be sold publicly unless the applicant is a large national firm with a good bond rating. Once the bonds are sold the trustee turns the funds generated over to the

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⁸⁰ Joel Connell

⁸¹ The firm receiving the financing must pay all costs associated with issuing the bonds.
applicant. The trustee handles the collection of interest and principal from the firm receiving the financing and the payment of said interest and principal to the bond holders. Once the principal and interest is paid off, the issue is retired and the process is completed.

The only criteria the Industrial Development Board of the County of Knox has is that the financed project must create employment. The Board sees its job as protecting the bondholder. The Board perceives the most effective way to protect the bond holders as letting the market regulate the sale of bonds. The most risky firms would be eliminated from the market because interest rates on the bonds would be prohibitively high or investors would not be found. The interest rates of industrial development bonds in Knox County depend upon the credit rating of the firm receiving the funds generated by the bond. K-Mart would be able to obtain lower interest rates on bonds issued for it than would a small local firm.

Chapter IV presents the methodology used in this analysis of the use of industrial development bonds in Knox County.

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82 Joel Connell
CHAPTER IV

METHODOLOGY

The intent of this thesis was to develop a methodology for the measurement of the impact of industrial development bonds on the local community and to measure the impact industrial development bond financed firms have on the Knoxville, Tennessee community. The impact areas studied were property tax revenues, new employment generation and the capital intensive public infrastructure. The infrastructure was limited to streets and roads, school buildings, and water and sewer facilities.

Sampling

The nonprobability method of sampling was used because it employs the researcher's judgement in the selection of the sample members. This permitted the researcher to select firms that received industrial development bonds of approximate equal value and to select the sample from a narrow time frame. The narrow time frame reduced the need for discounting monetary terms and it allowed the researcher to analyze firms under the same economic conditions.

The sampling frame of this study was Table 1 of the Knox County Industrial Revenue Bond Analysis 1966 - 1981.\(^3\)

The time period from which issues were selected was 1979 -

\(^3\)J. Sidney Downey, p6

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1981. This was the only period for which the manufacturing, office, commercial and apartment groups were represented.

After the time frame was determined, the issues within the time frame were grouped under the four general categories of apartments, retail/wholesale, office complexes and manufacturing. One issue of approximate equal value was selected from each category.

The value of bonds issued between October 1, 1966 through August 27, 1981 ranged from 175,000 to 10,000,000 dollars. The issues selected for this study ranged from 2,900,000 to 4,000,000 dollars. This was the narrowest possible range which could be attained.

Collection of Data

The analysis used primary and secondary source data. Primary source data was collected or generated by the researcher. Secondary source data was collected by someone other than the researcher.

The primary source data used in this thesis included long term employment and the average wage of the employees, the average wage of construction workers, the number of highway trips generated by a project and the capacity of the street or road adjacent to a project.

The long term employment and wage figures were obtained from the firms or businesses located in the projects. In order to get firm specific data a pledge of anonymity was given to all the firms and businesses involved.
The short term employment figures were not attainable from the construction firms. General contractors were not aware of the number of employees a subcontractor employed nor the wages paid. Contractors and subcontractors were reluctant to provide any firm specific data even when anonymity was promised. The wage rates for construction workers was determined by using the standards in the U.S. Department of Labor publication, Labor and Material Requirements for Commercial Office Building Construction and the firms' proforma statements on file at the Industrial Development Board of Knox County.

Four steps were involved in deriving short term employment.

1. Multiply the construction cost by the on-site wage factor to get the on-site wages.

2. Multiply the employee hours per 1,000 dollars of construction costs by the construction

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85 Obtained from files at the Industrial Development Board of Knox County.

86 U.S. Department of Labor, Table 24

87 The figure for Firm 'R' was obtained by working backwards through the formula. Since Firms 'O' and 'R' are of similar construction and built during the same period, the average yearly wage was assumed the same.

88 U.S. Department of Labor, Tables 3 and 22. The figures for Firms 'O' and 'R' were taken from Table 3. The figure for Firm 'R' was for projects containing office and shopping facilities.
cost to get the on-site employee hours.

3. Divide the on-site employee hours by the average number of hours worked on a yearly basis for a construction worker\(^{89}\) to obtain the number of workers.

4. Divide the total on-site wages by the number of workers to get the average yearly wage.

The number of highway trips generated by a development was determined by multiplying an independent variable (the number of employees, square footage, etcetera) by a dependent variable (the average number of trips per independent variable). The trips generated by a project were added to the existing volume on the highway to determine the impact on the highway. The formulas set forth in the Highway Capacity Manual\(^{90}\) were used to determine the capacity of local roads.

The secondary source data used in this study included property tax receipts, school capacity and enrollments, traffic counts, development size, water and sewer capacity, usage, fees and costs. Property tax receipts were obtained from the office of the Knox County Trustee.

School capacities and enrollment records were obtained from Small Area Studies prepared by the Metropolitan Planning Commission and from Knoxville City School Board records.

\(^{89}\)U.S. Department of Labor, p3

The secondary source data used in measuring the impact on local roads were traffic counts and development size. Traffic counts for the local roads adjacent to the developments were provided by the Metropolitan Planning Commission in the Traffic Data Inventory and Survey Knox County,\(^1\) and the Tennessee Department of Transportation study Traffic Flow Maps 1981, Roads and Streets in Tennessee.\(^2\) The development sizes were available from the applications submitted by the developers to the Industrial Development Board of Knox County.

Data on water and sewer capacities was available from the Tennessee State Planning Office publication Sanitary Services in Tennessee 1979,\(^3\) the State of Tennessee Department of Public Health in its Community Water Systems In Tennessee Report \#2\(^4\) and from a survey of utilities. The utilities provided the data for the water and sewer use for each project, and the fees charged. The utilities also

\(^1\) Metropolitan Planning Commission, Traffic Data Inventory and Survey Knox County, Knoxville, Tennessee, 1980


\(^3\) Tennessee State Planning Office, Sanitary Sewers in Tennessee 1979, Nashville, Tennessee, 1979

provided data on the amount of the system being used and the

cost of providing the services.

Impact Analysis

This analysis used income and employment, property tax
generation and infrastructure costs as the measures of
impact. Income was used to measure the economic impact the
projects had in the community. The short term impact was
limited to on-site construction. On-site labor costs had to
be estimated because of the construction industry's reluc-
tance to report firm specific data.

There were two types of long term income considered —
direct and indirect. Direct income came from the payrolls
of the firms who used the industrial development bonds.
Indirect income is that which was generated by businesses
that provided goods and services to firms that used the
industrial development bond financing. The indirect income
numbers were developed through the use of an income
multiplier. The income multiplier for the Knoxville economy
was developed by the Center for Business and Economic
Research, the University of Tennessee. Only basic
industries are used with the multiplier to determine
indirect income.

Employment was used to measure the economic impact in
human terms. Employment was also used in measuring the

95 Charles B. Garrison, Projections Of The Knoxville
Economy To 1980 and 1990, Knoxville, Tennessee, 1974
indirect income effect. Employment was divided into two categories—basic and nonbasic. Basic industries bring money into the local economy by selling their goods and services outside of the local economy. Nonbasic industries sell their goods and services within the local economy. The following location quotient was used to determine basic industries:  

\[
\frac{E_{rj}}{E_r} > 1 \\
\frac{E_{sj}}{E_s} < 1
\]

In this formula \(E_r\) represents employment, \((r)\) stands for region, \((s)\) stands for the southeastern part of the U.S. and \((j)\) represents the type of industry. If the calculated value was greater than one, the industry was considered to be basic.  

Two assumptions were made in this analysis. It was assumed that only basic industries have a multiplier effect on income and that retail/wholesale trades, distribution and apartment management are not basic industries. It was also assumed that an increase in the number of retail stores in an area did not increase sales in the market as a whole.

The majority of all locally generated revenues come from property taxes. Changes in property tax revenues in

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97 Donald A. Krueckeberg, p397
the city and county were studied for each project. Fiscal impact was measured by the increase or decrease in property taxes generated by each project.

The analysis of the infrastructure was limited to the use of roads, water and sewer systems and public schools. The measurement used in the highway analysis was the percentage of the highway's capacity being used and at what service level, and what part of that use was attributed to the new project. The number of trips generated at the peak of the generator was determined by using the Institute of Transportation Engineers' formula for trip generation (independent variable X dependent variable). The independent variable for a project would be the number of housing units, square footage of the project, or number of employees. The dependent variable was the number of trip ends assigned to each unit of the independent variable. The peak traffic volume of a street was determined by taking 10% of the 24 hour traffic count of the highway. Highway capacity was determined by multiplying the maximum service capacity of the highway by factors for width of the highway and for trucks and grades. If an intersection was near the section of road being measured, the capacity of the

98 Institute of Transportation Engineers, Trip Generation, Arlington, Virginia, Information Report from Technical Committee 6A6, 1976

road is determined by the capacity of the intersection. The following formulas were used to determine the capacities of roads adjacent to the projects.

\[ SV_x = (MSV)(W)(T)^{100} \]

\[ MSV = \text{Maximum service volume at level (x)} \]

\[ W = \text{Width of lanes and clear shoulders} \]

\[ T = \text{Percentage of trucks on road and grade factor} \]

\[ SV_x = \text{Volume at service level (x)} \]

\[ SV_x = (BSV)(M-P)(Loc)(R-Turn)(L-Turn)(T)(G/C)^{101} \]

\[ BSV = \text{Basic service volume} \]

\[ M-P = \text{Metro population at peak factor (y)} \]

\[ Loc = \text{Location within urban area} \]

\[ R-Turn = \text{Percentage of right turns} \]

\[ L-Turn = \text{Percentage of left turns} \]

\[ T = \text{Truck and grade factor} \]

\[ G/C = \text{Amount of green per cycle}^{102} \]

\[ SV_x = \text{Volume at service level (x)} \]

The analysis of the water and sewer systems dealt with the capacity of the entire system and the cost of providing the service to each project. The impact a project had on a system was measured in nominal terms as well as a percentage of the system's capacity. A cost benefit analysis of the provision of the service was performed. In this analysis the average cost per unit(s) represented the cost and the fee paid by the user was the benefit.

The measure of impact on public schools was limited to

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101 John E. Baerwald, p375

102 The amount of green per cycle was obtained from field studies conducted on March 7, April 10, and May 12, 1983.
the increase in enrollment due to new apartment construction. Enrollment in affected schools over the school's capacity was considered a negative impact. The extent of the impact was limited to the number of students from the apartment complex.

A data matrix was developed to assist in the orderly collection and recording of data. The matrix provided categorized responses for questions set up in the matrix. The questions were grouped into the areas of employment, taxes and infrastructure. The categorized responses were impact amount, location or use specific, benefits or costs, who was impacted, was industrial development bond financing necessary, were other inducements offered and was the growth new or reconstituted.

Two questionnaires were used in gathering data. The first was used in gathering firm specific data from the firms involved. The second was used to obtain data on the utilities involved. The questionnaires were necessary so all interviewees were presented with the same questions, whether the questionnaire was administered by the researcher or self administered. A standard set of questions improves the reliability of the responses (Appendix A).

Chapter V provides an overview of the use of industrial development bonds in Knox County and presents the data collected on each project.
CHAPTER V

COMPARISON OF PROJECTS

The Industrial Development Board of Knox County issued 117 industrial development bonds through July 1982. One hundred and eight different firms benefited from these bonds. The largest number of bonds were issued for manufacturing facilities. Table 1 shows the number of bonds issued for each type of development.

TABLE 1

DISTRIBUTION OF ISSUES BY DEVELOPMENT TYPES 1966-1982

<table>
<thead>
<tr>
<th>Type of Development</th>
<th>Number of Issues</th>
<th>Percentage of Issues</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacturing</td>
<td>28</td>
<td>24.0</td>
</tr>
<tr>
<td>Office</td>
<td>24</td>
<td>20.5</td>
</tr>
<tr>
<td>Retail</td>
<td>23</td>
<td>19.7</td>
</tr>
<tr>
<td>Distribution</td>
<td>21</td>
<td>18.0</td>
</tr>
<tr>
<td>Restaurant</td>
<td>9</td>
<td>7.7</td>
</tr>
<tr>
<td>Hotel</td>
<td>6</td>
<td>5.1</td>
</tr>
<tr>
<td>Apartment</td>
<td>5</td>
<td>4.2</td>
</tr>
<tr>
<td>Recreation</td>
<td>1</td>
<td>.8</td>
</tr>
<tr>
<td>TOTALS</td>
<td>117</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Industrial Development Board of Knox County

A total of 247,217,700 dollars in industrial development bonds were issued between October 1966 and July 1982.
The average issue amount, for all categories, was $2,112,972 dollars. The manufacturing sector received the greater amount of financing with $52,269,000 dollars in industrial development bonds. Office complexes were next with over $49,800,000 dollars in industrial development bond financing. The value of bonds issued for each type of development is listed in Table 2.

### TABLE 2

**VALUE OF BOND ISSUES BY DEVELOPMENT TYPE**

KNOXVILLE, TENNESSEE 1966-1982

<table>
<thead>
<tr>
<th>Type of Development</th>
<th>Value of Issues</th>
<th>Percentage of Total Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacturing</td>
<td>$52,269,000</td>
<td>21.5</td>
</tr>
<tr>
<td>Office</td>
<td>49,820,000</td>
<td>20.5</td>
</tr>
<tr>
<td>Retail</td>
<td>35,640,000</td>
<td>14.7</td>
</tr>
<tr>
<td>Distribution</td>
<td>35,245,000</td>
<td>14.5</td>
</tr>
<tr>
<td>Hotel</td>
<td>28,550,000</td>
<td>12.0</td>
</tr>
<tr>
<td>Apartment</td>
<td>24,826,700</td>
<td>10.2</td>
</tr>
<tr>
<td>Restaurant</td>
<td>15,583,000</td>
<td>6.5</td>
</tr>
<tr>
<td>Recreation</td>
<td>284,000</td>
<td>.1</td>
</tr>
</tbody>
</table>

**Total Value of Issues** $247,217,700

Source: Industrial Development Board of Knox County
The average value of a bond was greatest for apartment complexes at nearly 5,000,000 dollars. Hotels ranked second with the average value of a bond at approximately 4,700,000 dollars. The high average value of apartment and hotel complexes may be attributed to their small number, their large sizes and that all the projects were built in the 1980's, when costs were higher than when a number of manufacturing facilities were constructed in the 1960's. Table 3 ranks the types of developments by the average value of the bonds.

TABLE 3
RANKING OF DEVELOPMENT TYPES
BY AVERAGE BOND VALUE 1966-1982

<table>
<thead>
<tr>
<th>Type of Development</th>
<th>Average Value</th>
<th>Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apartment</td>
<td>$4,965,340</td>
<td>1</td>
</tr>
<tr>
<td>Hotel</td>
<td>4,758,333</td>
<td>2</td>
</tr>
<tr>
<td>Office</td>
<td>2,075,833</td>
<td>3</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>1,866,750</td>
<td>4</td>
</tr>
<tr>
<td>Restaurant</td>
<td>1,731,444</td>
<td>5</td>
</tr>
<tr>
<td>Distribution</td>
<td>1,678,333</td>
<td>6</td>
</tr>
<tr>
<td>Retail</td>
<td>1,549,565</td>
<td>7</td>
</tr>
<tr>
<td>Recreation</td>
<td>284,000</td>
<td>8</td>
</tr>
</tbody>
</table>

Source: Industrial Development Board of Knox County
The 1983 combined city and county property tax yield for firms receiving industrial development bond financing was 1,779,236 dollars. The largest tax generator for the city and county combined was manufacturing. Approximately 29% of the total combined tax yield of firms receiving industrial development bonds was generated by manufacturing firms. Office complexes accounted for 26% of the combined tax yield and hotels accounted for 17% of the combined tax yield of firms receiving industrial development bonds.

Offices constructed with industrial development bonds provided the largest city property tax yield of any group. The 1983 property taxes on office complexes amounted to 235,720 dollars or 39% of the city tax yield for firms receiving industrial development bonds. The 1983 city tax yield from firms using industrial development bonds was 607,822 dollars. The 1983 county tax yield from firms receiving industrial development bonds was 1,171,414 dollars. Manufacturing firms generated 417,952 dollars in property taxes for the county, the largest amount of any group. The amount of taxes paid by each group are listed in Table 4.

Twenty three national or regional corporations received industrial development bonds or were the sole tenants of a complex financed with industrial development bonds issued by the Industrial Development Board of Knox County. This included three hotel chains located in Knoxville's Central
Business District. Not included are large retail chains that are major but not sole tenants in shopping centers.

<table>
<thead>
<tr>
<th>Type of Development</th>
<th>City Yield</th>
<th>County Yield</th>
<th>Combined Yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacturing</td>
<td>$99,110</td>
<td>$417,952</td>
<td>$517,062</td>
</tr>
<tr>
<td>Distribution</td>
<td>34,119</td>
<td>147,900</td>
<td>182,019</td>
</tr>
<tr>
<td>Retail</td>
<td>56,986</td>
<td>186,667</td>
<td>243,653</td>
</tr>
<tr>
<td>Office</td>
<td>235,720</td>
<td>221,752</td>
<td>457,472</td>
</tr>
<tr>
<td>Apartment</td>
<td>8,534</td>
<td>7,445</td>
<td>15,979</td>
</tr>
<tr>
<td>Hotel</td>
<td>162,728</td>
<td>135,160</td>
<td>297,888</td>
</tr>
<tr>
<td>Restaurant</td>
<td>10,625</td>
<td>54,405</td>
<td>65,030</td>
</tr>
<tr>
<td>Recreation</td>
<td>--</td>
<td>133</td>
<td>133</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>607,822</strong></td>
<td><strong>1,171,414</strong></td>
<td><strong>1,779,236</strong></td>
</tr>
</tbody>
</table>

Source: Knox County Trustee's Office

The 23 national or regional corporations benefited from 117,823,000 dollars in industrial development bond financing. This was 47.6% of the total value of bonds issued between October 1966 and July 1982. Three companies received 10,000,000 dollars in financing. The firms were Matsushita Electronic (Panasonic), Pegasas (owner of the Hilton hotel) and Station 82 (owner of the Holiday Inn located in the CBD).
The four types of development selected for this study were apartments, manufacturing, office complexes and retail complexes. The value of the bond issues selected range from 2,900,000 to 4,000,000 dollars. The dollar value of the bonds issued for the projects in this study are:

- Firm 'A' (Apartment) 3,600,000
- Firm 'M' (Manufacturing) 4,000,000
- Firm 'O' (Office) 2,900,000
- Firm 'R' (Retail) 3,700,000.

Three periods were examined in this study. The preconstruction period was used to represent conditions prior to the development of the project. The short term impact took place during the construction period and the long term impact was measured in the post development period. Firm 'M' existed prior to the study period. The industrial development bond was used to purchase the land, buildings, equipment and inventory from an out of state corporation. Firms 'A', 'O', and 'R' are new. Some of the businesses located in Firm 'O's project were located in Knox County prior to Firm 'O's development. The employment figures for the previously existing businesses were excluded from the employment figures used in this study.

**Property Tax Revenue**

The four projects generated 140,895 dollars in property tax revenues for 1983. This was an increase of 104,206 dollars over the property tax generated by these projects or
parcels in 1980. With the manufacturing, office and retail projects located outside the city limits of Knoxville, the county benefited the most from these developments. The county's increased property tax revenue for 1983 was 93,691 dollars and the city's revenue increased by 10,514 dollars.

Firm 'R' generated 49,605 dollars in tax revenues in 1983, the largest tax generator of all firms studied. Firm 'M' generated the second largest amount with 43,571 dollars. Firm 'O' generated 28,497 dollars and Firm 'A' generated 19,222 in tax revenues for 1983. Table 5 displays the taxes for 1980-1983 and the increase in taxes generated by the projects.

Firm 'R' generated the greatest amount of property taxes per 1,000 dollars of industrial development bond financing received (13.41). Firm 'M' generated 10.83. Firm 'O' generated 9.83 and Firm 'A' was last with 5.43.
### TABLE 5

1980-1983 PROPERTY TAX YIELDS OF STUDIED PROJECTS

<table>
<thead>
<tr>
<th>Firm</th>
<th>1980 City</th>
<th>1980 County</th>
<th>1983 City</th>
<th>1983 County</th>
<th>Increase City</th>
<th>Increase County</th>
</tr>
</thead>
<tbody>
<tr>
<td>'A'</td>
<td>-0-</td>
<td>107.41</td>
<td>10,514.83</td>
<td>8,707.90</td>
<td>10,514.83</td>
<td>8,600.49</td>
</tr>
<tr>
<td>'M'</td>
<td>-0-</td>
<td>32,173.87</td>
<td>-0-</td>
<td>43,571.34</td>
<td>-0-</td>
<td>11,397.47</td>
</tr>
<tr>
<td>'O'</td>
<td>-0-</td>
<td>1,068.26</td>
<td>-0-</td>
<td>28,497.92</td>
<td>-0-</td>
<td>27,429.66</td>
</tr>
<tr>
<td>'R'</td>
<td>-0-</td>
<td>3,339.17</td>
<td>-0-</td>
<td>49,603.02</td>
<td>-0-</td>
<td>46,264.30</td>
</tr>
<tr>
<td>TOTAL</td>
<td>36,688.71</td>
<td>140,895.01</td>
<td></td>
<td>104,206.30</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Source:** Knox County Trustee's Office

---

Sewer and Water Infrastructure

The impact on the local sewer and water infrastructure was measured by determining the percentage of the total system capacity being used and by performing a cost/benefit analysis of the provision of the services to the developments. Firm 'M' had a minimal additional impact on the
infrastructure because the development was in operation prior to the study period. A customer's sewer usage was estimated to be the same as their water use. Billings for sewer services used the amount of water consumed to determine the charge to the consumer.

The projects in this study did not place any of the utility's infrastructures over or near capacity. No other developments had to be foregone because of a project's demand on the water and sewer infrastructure.\(^\text{103}\)

The largest user of water was Firm 'A'. Its average monthly water use for 1982 was 460,643 gallons. Firm 'R's average monthly water use was 178,866 gallons and Firm 'O's average monthly water use was 170,333 gallons. Firm 'M' used the least amount of water during this period with a monthly average of 146,576 gallons.\(^\text{104}\)

The sewer systems of the Hallsdale-Powell and First Utility Districts were using the greatest percentage of their systems' capacities. The systems were operating at 88 and 87 percent of their capacities, respectively. These were the most intensely used facilities in the area. Table 6 shows the capacities, use and percentage of capacity used for the utilities' water and sewer system.

\(^{103}\text{From personal communication with the directors of the affected utilities.}\)

\(^{104}\text{Utility usage for the projects were obtained from the utilities' files.}\)
TABLE 6
CAPACITY AND USAGE OF
UTILITY INFRASTRUCTURE 1982

<table>
<thead>
<tr>
<th>Utility</th>
<th>Capacity</th>
<th>Use</th>
<th>% Used</th>
</tr>
</thead>
<tbody>
<tr>
<td>KUB water</td>
<td>50.5 MGPD</td>
<td>40.4 MGPD</td>
<td>80</td>
</tr>
<tr>
<td>WWCS sewer</td>
<td>50.0 MGPD</td>
<td>40.0 MGPD</td>
<td>80</td>
</tr>
<tr>
<td>First water</td>
<td>3.9 MGPD</td>
<td>3.0 MGPD</td>
<td>76</td>
</tr>
<tr>
<td>District sewer</td>
<td>1.5 MGPD</td>
<td>1.3 MGPD</td>
<td>87</td>
</tr>
<tr>
<td>Hallsdale water</td>
<td>3.5 MGPD</td>
<td>2.2 MGPD</td>
<td>61</td>
</tr>
<tr>
<td>Powell District</td>
<td>2.5 MGPD</td>
<td>2.2 MGPD</td>
<td>88</td>
</tr>
</tbody>
</table>

MGPD = Million Gallons per Day
Source: Survey of Utilities
Sanitary Services in Tennessee 1979
Community Water Systems in Tennessee Report #2

The cost of providing water and sewer services to large users was less than providing the same services to single family households. The lower cost was due in part to the lower per-unit cost of support services, which includes meter reading and billing. The average cost of providing
thousand gallons of water and sewer services in 1982 is shown in Table 7.

### TABLE 7

**AVERAGE COST OF 1,000 GALLONS OF WATER AND SEWER SERVICE 1982**

<table>
<thead>
<tr>
<th>Utility</th>
<th>Cost per 1,000 gallons</th>
</tr>
</thead>
<tbody>
<tr>
<td>KUB water</td>
<td>$1.21</td>
</tr>
<tr>
<td>WWCS sewer</td>
<td>.63</td>
</tr>
<tr>
<td>Hallsdale water</td>
<td>1.31</td>
</tr>
<tr>
<td>Powell sewer</td>
<td>.57</td>
</tr>
<tr>
<td>First water</td>
<td>1.27</td>
</tr>
<tr>
<td>Utility sewer</td>
<td>.61</td>
</tr>
</tbody>
</table>

**Source:** Survey of Utilities

All projects paid more than the average amount it cost to provide the service to the user. The costs of providing the services and the fees each project paid for the services are shown in Table 8.
### Table 8
FEES FOR AND COSTS OF WATER AND SEWER SERVICES 1982

<table>
<thead>
<tr>
<th>Firm</th>
<th>'A'</th>
<th>'M'</th>
<th>'O'</th>
<th>'R'</th>
</tr>
</thead>
<tbody>
<tr>
<td>User Fee(^1)</td>
<td>$582.81</td>
<td>$435.53</td>
<td>$253.25</td>
<td>$450.60</td>
</tr>
<tr>
<td>Cost(^2)</td>
<td>557.39</td>
<td>192.03</td>
<td>212.09</td>
<td>234.32</td>
</tr>
<tr>
<td>Difference</td>
<td>25.42</td>
<td>243.50</td>
<td>41.12</td>
<td>216.28</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Firm</th>
<th>'A'</th>
<th>'M'</th>
<th>'O'</th>
<th>'R'</th>
</tr>
</thead>
<tbody>
<tr>
<td>User Fee(^1)</td>
<td>518.05</td>
<td>225.60</td>
<td>211.16</td>
<td>397.11</td>
</tr>
<tr>
<td>Cost(^2)</td>
<td>290.21</td>
<td>83.55</td>
<td>103.91</td>
<td>101.96</td>
</tr>
<tr>
<td>Difference</td>
<td>227.84</td>
<td>142.05</td>
<td>107.25</td>
<td>295.15</td>
</tr>
</tbody>
</table>

Source: \(^1\)Rate Schedules
\(^2\)Utilities Files

### Streets and Highways

Two formulas were used to determine the capacity of the streets adjacent to the projects. The formula used to determine the capacity of the roads impacted by Firms 'A' and 'M' estimates the capacity of an open section of road. The formula used to measure the capacity of the roads adjacent to Firms 'O' and 'R' estimates the capacity of a signalized intersection near the projects.

Firm 'A' is located in a predominantly single family residential area. The road is narrow with unimproved shoulders and sharp drop offs on both sides of the road. The single access to Firm 'A' is on a long hill with creates...
an obstructed view. Sight distance is estimated at 80% on the hill. It was assumed that there was no truck traffic on the road during peak traffic flow. Pavement width was 22 feet with shoulders two feet wide on each side.\textsuperscript{105} To determine the greatest impact on the road, the peak of the generator and the peak of the road were assumed to occur at the same time.

In determining the number of trips generated by Firm 'A', the independent variable was the number of apartments in the complex (128). The peak period dependent variable was .4 trips per unit. The number of trips generated by Firm 'A' was fifty two. The peak traffic volume on the road was 813 vehicles per hour (vph).\textsuperscript{106} The peak volume of the road, including the peak traffic generated by Firm 'A', was 865 vph.

The desired flow of traffic is at level C, a stable flow of traffic. The capacity of the road was first estimated at level C and than at other levels needed to determine the capacity of the road.

\[
\begin{align*}
\text{Service Level C - Stable Flow} & \quad 1,060 \times .70 \times 1.0 = 742 \text{ vph maximum} \\
\text{Service Level D - Approaching Unstable Flow} & \quad 1,100 \times .75 \times 1.0 = 825 \text{ vph maximum}
\end{align*}
\]

\textsuperscript{105} Metropolitan Planning Commission, 1995 Highway System Plan #9, Knoxville, Tennessee, 1980, p7. Shoulder widths from field study conducted May 25, 1983.

\textsuperscript{106} This figure was rounded up from 812.5.
Service Level E - Unstable Flow
2,000 X .75 X 1.0 = 1,500 vph maximum

The traffic volume on the road adjacent to Firm 'A' was at an unstable level when the traffic generated by Firm 'A' was included. Prior to Firm 'A's development, the road operated at service level D. Firm 'A's development at this location has had a negative impact on the residents of the area and on the commuters that use this road.

Firm 'M' is located on a two lane rural highway near an intersection of an interstate highway. The intersection has four lanes but the traffic volume is restricted by the narrower two lane sections of the highway. The two lane section of the road had nine feet wide lanes with side obstructions no less than six feet from the pavement.107 The area is flat with unobstructed passing sight distance.

The independent variable used in estimating the number of new trips generated was the number of new employees. The dependent variable was .41 peak hour trips per new employee. Four peak hour trips were generated by the addition of nine employees.

The peak period of the road and of Firm 'M' are assumed to occur at the same time. The peak traffic volume of the highway was 1,161 vph. The total peak volume of the road, including the traffic generated by Firm 'M', was 1,165 vph.

107Highway System Plan #9, p15. Shoulder width from May 25, 1983 field study.
The highway capacity at service levels C, D and E were:

Service Level C
1,120 X .70 X .97 = 761 vph maximum

Service Level D
1,500 X .76 X .97 = 1,106 vph maximum

Service Level E
2,000 X .76 X .97 = 1,475 vph maximum.

The highway adjacent to Firm 'M' was operating at service level E prior to the addition of the nine employees. Firm 'M' s expanded work force had negligible impact on the traffic flow on the adjacent highway.

Firm 'O' is located in an outlying business district. The street was divided with two lanes in each direction. The width of the street at the approach of the intersection was 20 feet. The intersection is a "T" intersection. The turning direction with the greatest traffic flow was treated as through traffic.\textsuperscript{108} It was assumed that two thirds of the traffic generated by Firm 'O' passed through the intersection that regulated the volume of traffic on the street.\textsuperscript{109} The percentage of vehicles making right turns was obtained from Traffic Data Inventory.

One thousand square feet was the independent variable used in determining the number of trips generated by Firm 'O' during peak periods. There were 63,338 square feet in

\textsuperscript{108} Thanh C. Duong, A Synthesized Traffic Impact Analysis of Post World's Fair Site Development, 1983 Unpublished Thesis, University of Tennessee, p93

\textsuperscript{109} Traffic Engineering Handbook, p44
the project. The peak period dependent variable was 2.38 trips per thousand square feet. Firm 'O' generated 151 trips. The amount of traffic generated by Firm 'O' that entered the intersection was 100 trips (2/3 X 151). The peak volume of the approach to the intersection was 443 vph. The total peak volume of traffic, including the traffic generated by Firm 'O' was 543 vph. The street capacity at service level C was 560 vph \(((1,450)(.97@Phf.85)(1.25) \times (.93)(1.1)(1.)(.31) = 560)\). The total peak volume of 543 vph fell within service level C, the desired level of service.

Firm 'R' is located on a four lane arterial highway in an outlying commercial area. The approach to the intersection that controlled the flow of traffic on the adjacent highway consists of two through lanes, a left turn lane and a paved shoulder that could be used for right hand turns. The width of the approach was 48 feet.\(^{110}\) With the project located south of the intersection, the north bound approach to the intersection was used in measuring the impact Firm 'R' had on the traffic flow. Right turns and left turns accounted for ten and nine percent of the traffic, respectively.\(^{111}\) Truck traffic was assumed to account for five percent of the traffic on the north bound approach.

\(^{110}\) Measurement from a field survey conducted May 25, 1983.

\(^{111}\) Traffic Data Inventory, Figure #494
The independent variable used in estimating the traffic generated by Firm 'R' was 1,000 square feet. Firm 'R' consisted of 160,000 square feet. It was assumed that the peak period for Firm 'R' and the adjacent street occurred at the same time. The peak period dependent variable was 5.5 trips per 1,000 square feet. The peak period traffic generated by Firm 'R' was 880 trips. Assuming two thirds of the traffic generated entered the north bound approach, 587 trips were added to the existing traffic.

The peak volume of the approach was 1,200 vph. The total peak volume, including the traffic generated by Firm 'R' was 1,787 vph. The capacity of the north bound approach for selected service levels are listed below.

Service Level C - Stable Flow
\[(3,400)(.97)(1.25)(1.)(1).(1.)(.6) = 2,474 \text{ vph maximum}\]

Service Level B - Stable Flow
\[(2,800)(.97)(1.25)(1.)(1.)(1.)(.6) = 2,037 \text{ vph maximum}\]

Service Level A - Free Flowing
\[(2,500)(.97)(1.25)(1.)(1.)(1.)(.6) = 1,819 \text{ vph maximum}\]

The total peak volume was within the limits of service level A, which represents free flowing traffic. Firm 'R' did not have a negative impact on the flow of traffic on the adjacent highway.

Local Economic Impacts

The impact on the local economy was measured by jobs and wages, created directly and indirectly, in the short and

\[\text{Traffic Engineering Handbook, p344}\]

75
long terms. The measure for short term employment was limited to on-site construction jobs. Firm 'M' did not create any short term employment because the facility existed prior to its purchase by local investors.

Short-term labor costs for Firm 'A' were higher than the short-term labor costs of the other projects because they had to pay construction workers the prevailing wage. 113

Overall Firm 'R' had the greatest impact on short-term employment with over 77 full time workers and an on-site payroll of 1,031,361 dollars. Firm 'A' had a larger on-site payroll but employed fewer workers. Firm 'O' had the smallest impact with forty four on-site workers and a payroll of 585,927 dollars. The short-term impact of the firms is presented in Table 9. A breakdown of these figures appears in Appendix B.

113Davis - Bacon Act, U.S. Code, Title 40, 1982
### TABLE 9
SHORT-TERM JOBS AND WAGES
BY DEVELOPMENT

<table>
<thead>
<tr>
<th>Firm</th>
<th>Jobs</th>
<th>Total Wages</th>
<th>Average Wages</th>
</tr>
</thead>
<tbody>
<tr>
<td>'A'</td>
<td>59.48</td>
<td>$1,054,575</td>
<td>17,729</td>
</tr>
<tr>
<td>'M'</td>
<td>-0-</td>
<td>-0-</td>
<td>-0-</td>
</tr>
<tr>
<td>'O'</td>
<td>43.89</td>
<td>585,927</td>
<td>13,350</td>
</tr>
<tr>
<td>'R'</td>
<td>77.26</td>
<td>1,031,361</td>
<td>13,350</td>
</tr>
</tbody>
</table>

Table 10 shows the impact of the developments by the number of jobs created and wages paid for every 1,000,000 dollars of industrial development bond financing.

### TABLE 10
SHORT-TERM JOBS AND WAGES GENERATED PER $1,000,000 OF INDUSTRIAL DEVELOPMENT BONDS

<table>
<thead>
<tr>
<th>Firm</th>
<th>Jobs</th>
<th>Wages</th>
</tr>
</thead>
<tbody>
<tr>
<td>'A'</td>
<td>16.5</td>
<td>$292,937</td>
</tr>
<tr>
<td>'M'</td>
<td>-0-</td>
<td>-0-</td>
</tr>
<tr>
<td>'O'</td>
<td>15.1</td>
<td>202,044</td>
</tr>
<tr>
<td>'R'</td>
<td>21.3</td>
<td>278,746</td>
</tr>
</tbody>
</table>
The long-term impact on the economy was measured in the number of jobs created by the project, the wages of the new workers and the indirect income generated by the new jobs. It was assumed that only basic industries were able to generate indirect income. It was also assumed that apartment complexes and retail establishments were not basic industries. A location quotient was used to determine if a business was considered basic.

Once an industry was determined to be basic, the income of the new workers was multiplied by the income multiplier for the Knoxville economy. The income multiplier for the Knoxville economy is 1.99. \(^{114}\) A multiplier of 1.0 represents only the direct income. For every dollar of income generated in a basic industry in the Knoxville economy, 99 cents of indirect income is generated.

The four projects in this study created 257 new jobs and saved 300 existing jobs. \(^{115}\) The largest generator of new jobs was Firm 'R' with 214. Firm 'A' created only four long term jobs. Firm 'R' also generated more new income than any of the other projects with payrolls totalling 1,437,500 dollars in 1982. The businesses located in Firm 'O' created 30 new jobs and 599,000 dollars in wages. Firm 'M' added nine employees to its work force and increased its

\(^{114}\)Charles B. Garrison, p25

\(^{115}\)The plant manager indicated that without industrial development bond financing, the plant could not have been purchased and would have shut down.
1982 payroll by 153,000 dollars. Firm 'A's payroll was the lowest at 46,500 dollars in 1982. The four projects generated 2,236,000 dollars in new direct income.\textsuperscript{116} An additional 5,100,000 dollars in direct income was also retained by the local investors' purchase of Firm 'M'.

Only four of the twelve businesses located in Firm 'O' were new to the Knoxville area. Two of the businesses were classified under the Standard Industrial Code (SIC) #7392. The other two businesses fell under the SIC #'s 891 and 893. Firm 'M's SIC classification is #3993 (Appendix B).

The southeastern United States was used as the area of comparison for the local economy in the location quotient.\textsuperscript{117}

Twenty eight new basic jobs were created, 19 in businesses located in Firm 'O' and nine in Firm 'M'. Firm 'O' and Firm 'M' generated 406,500 and 153,000 dollars in direct income. Together they produced 553,905 dollars in indirect income.

The total long term impact on the Knoxville economy by the four projects was 2,789,905 dollars.\textsuperscript{118} The long-term

\textsuperscript{116}Employment and wage figures obtained from business operators.

\textsuperscript{117}The region includes the states of Alabama, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, and West Virginia.

\textsuperscript{118}1982 level wages.
impact each project had on the local economy is shown in Table 11.

TABLE 11
LONG - TERM IMPACT OF THE DEVELOPMENTS ON THE LOCAL ECONOMY

<table>
<thead>
<tr>
<th>Firms</th>
<th>Jobs</th>
<th>Income</th>
<th>Indirect Impact</th>
<th>Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>'A'</td>
<td>4</td>
<td>$46,500</td>
<td>-0-</td>
<td></td>
</tr>
<tr>
<td>'M'</td>
<td>9</td>
<td>153,000</td>
<td>151,470</td>
<td></td>
</tr>
<tr>
<td>'O'</td>
<td>30</td>
<td>599,000</td>
<td>402,435</td>
<td></td>
</tr>
<tr>
<td>'R'</td>
<td>214</td>
<td>1,437,500</td>
<td>-0-</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>257</td>
<td>2,236,000</td>
<td>553,905</td>
<td></td>
</tr>
</tbody>
</table>

1This figure does not include the jobs and income saved.

Public Schools

Knoxville Board of Education files indicated that the area in which Firm 'A', the apartment complex, was located had an increase of fifty students between the 1981-1982 and 1982-1983 school year.\(^{119}\) Firm 'A' was the only new construction in this area during that time period. Even if all new students to this area came from Firm 'A', none of

\(^{119}\)Obtained from Knoxville Board of Education records.
the schools affected operated over their physical capacity during the 1982-1983 school year. Since none of the affected schools were operating over their capacity, Firm 'A' did not have a negative impact.

Summary

Manufacturing and office complexes have been the predominant types of developments financed with industrial development bonds in Knox County through July 1982. Manufacturing and offices accounted for 40% of all bonds issued and 40% of the total value of all bonds for the period of October 1966 through July 1982. The average bond issue for an office complex was 2,075,833 dollars. For a manufacturing concern it was 1,866,750 dollars. These ranked third and fourth in the average value of bond issue types. Apartments led the way with an average bond value of 4,965,340 dollars.

Manufacturing firms receiving industrial development bond financing generated the greatest amount of property taxes. Industrial development bond financed manufacturing firms paid a combined city and county tax of 517,062 dollars for 1983. Industrial development bond office complexes generated the second largest amount of combined city and county property taxes with 457,472 dollars for the same

120 Interview with Dr. John McCook of the Knoxville Board of Education, May 10, 1983.
period. The county yielded nearly twice as much as the city did in property taxes.

Firm 'R' generated the largest amount of property taxes per 1,000 dollars of industrial development bond financing. Firm 'R' generated 13.41 for every 1,000 dollars of industrial development bond financing. This was followed by Firm 'M' with 10.89/1,000, Firm 'O' with 9.83/1,000 and Firm 'A' with 5.43/1,000 dollars of industrial development bond financing.

The water and sewer systems had ample capacity to handle the demands placed on them by these projects. No other development had to be foregone because these projects used up too much of the systems' capacities.

Only Firm 'A' had a negative impact on city or county roadways. The road adjacent to Firm 'M' was operating at an unstable peak flow prior to the nine new employees added to the Firm's work force. These new employees had a minimal impact on a road that was already operating at an undesirable level. Firms 'O' and 'R' did not have a negative impact on the streets adjacent to them.

Firm 'R' had the greatest impact on short-term employment by creating 77 new jobs with an on-site payroll of 1,031,361 dollars. Workers on Firm 'A' received higher wages than did workers on the other projects because the prevailing wage had to be paid. Fifty nine short-term workers were employed on Firm 'A' which had an on-site
payroll of 1,054,575 dollars. Firm 'M' was constructed prior to the study period. Firm 'M' was considered to not have an impact on short-term employment.

Businesses located in Firm 'R's project generated the largest amount of long-term employment. During 1982, 214 workers were employed in Firm 'R's project which had a payroll of 1,437,500 dollars. Businesses in Firm 'O's project employed 30 new workers and had an increased payroll of 599,000 dollars. Firm 'M' increased its work force by nine and its payroll by 153,000 dollars. Firm 'A's project generated the fewest jobs, four in all, and had the lowest payroll with 46,500 dollars.

No projects exerted a negative impact on the public schools.

The final chapter of this thesis will present the conclusions drawn by the researcher concerning the information gathered on the four projects, the Tennessee enabling legislation, the use of industrial development bonds in Knox County and on issues affecting industrial development bond financing in general. Areas of future investigation are also raised.
CHAPTER VI

CONCLUSION

This chapter addresses a number of issues on industrial development bonds as they apply to Knox County. The legislation enabling the creation of Industrial Development Boards and the use of industrial development bonds in Knox County is also addressed. Conclusions are drawn from data presented in the previous chapters.

Issues

Four general issues concerning the use of industrial development bonds as they relate to municipalities in general and Knox County in particular that are discussed below are:

1. that smaller businesses would be excluded from the municipal bond market because interest rates would be higher than the business could afford since the interest rate of the development bonds are tied to the credit rating of the business receiving the financing,

2. that the local tax base would not benefit from industrial development bond financing because publicly owned property is exempt from taxes,

3. whether the use of industrial development bonds alleviates unemployment and if so, is it targeted and

4. that the use of industrial development bonds creates unfair competition.

One hundred and eight different firms received industrial development bond financing in Knox County during the period between October 1966 and July 1982. The vast
majority of these firms were small businesses. Only 23 of the issues went to large regional or national firms. Smaller businesses had access to the bond market but the larger firms borrowed more money per issue than did the smaller businesses. The large businesses accounted for 47.6% of the total value of the bonds issued during this period. Clearly, the large businesses that had the easiest access to the traditional money markets also benefited the most from entering the municipal bond market. The concern of small businesses having access to industrial development bond financing does not appear to be a major concern in the case of Knox County.

None of the local governments in Knox County own any of the properties financed with industrial development bonds. Property taxes were paid on all of the developments. All industrial development bond financed projects, for bonds issued between October 1966 and July 1982, paid approximately 1,780,000 dollars in property taxes in 1983 (see Table 4).

Employment generation is not targeted in Knox County. The Industrial Development Board of Knox County only requires a project to create jobs. The developer or business seeking industrial development bonds determines the type of jobs created. The projects in this study created

121 This includes the hotels built with IDB in the CBD, even though the structures are not owned by the hotel chain.
257 new jobs. One project, 'M', may also have saved 300 jobs.

The question of unfair competition is more complex than business X received an industrial development bond and business Y did not, so X must have an unfair advantage. There have been numerous government programs that have benefited businesses. Some of these programs are tax abatements, subsidized loans, loan guarantees, minority ownership preferences, local content preferences and accelerated depreciation. Industrial development bonds are just another way government intervenes in the market. A question for future research is how to define fair competition. Until this is answered, one can not say, with any certainty, whether or not industrial development bonds provide unfair advantages for those businesses receiving them.

Enabling Legislation

The Industrial Corporation Act of 1957 is the Tennessee enabling legislation under which industrial development bonds are issued in Knox County. The purpose of the Act is "the issuance of industrial development bonds to construct, purchase or rebuild an employment producing facility, to increase the quality of housing and to control pollution."\(^{122}\) Firms 'O' and 'R' were employment generators

\(^{122}\)Tennessee Code Annotated, Chapter 53, section 7-53-102.
constructed with the assistance of industrial development bonds, Firm 'M' was purchased with industrial development bonds and Firm 'A' was constructed to improve the quality of housing. The basic concept behind the use of industrial development bonds is the creation of jobs for unemployed in an area. This concept began during the Great Depression in Mississippi with the Balance Agriculture With Industry Act (BAWI).123

Having unemployed workers in the area is a requirement for industrial development bond financing in Tennessee. The use of industrial development bonds is as varied as there are types of developments. Using industrial development bonds for housing is not a very effective means of creating jobs. Housing is a poor generator of employment. In this study the apartment complex created only four jobs. Also, section 7-53-101 (11)(A)(X) of the 1957 Act as amended, states that multi-family housing is "... to be used by persons of low/moderate income as may be determined by the directors of the board..."124 but it doesn't require any monitoring of the projects to be sure that they comply with the Act. It also leaves the definition of low and moderate income up to the local board of directors. How does a board of directors decide on what levels of income are low and

123 Advisory Commission on Intergovernmental Relations, p3.

It is too arbitrary to allow local boards to decide what constitutes low and moderate income.

One might conclude from the lack of controls in the Tennessee enabling legislation that either the intent of the law was to not provide adequate housing for low and moderate income households, or that a loophole was unintentionally created. In the case of Firm 'A', industrial development bonds were used as construction funds. Long-term financing was provided by Government National Mortgage Association (GNMA). Once the industrial development bonds were retired (debt purchased by GNMA), the low and moderate income requirements became void. Firm 'A' circumvented the letter of the law.

Impacts of Developments

The impacts of the four developments on the Knoxville community were classified as positive, neutral or negative. Positive impacts occur when conditions are made better, neutral impacts occur when the forces placed on a system are handled by the system with no reduction in the quality of service and negative impacts occur when conditions are made worse.

The creation of jobs and income were the most important impacts of industrial development bond financed projects because job creation was the primary purpose of industrial development bond legislation. Construction employment was less important than long-term jobs because the effect does
not last as long as long term employment. The short term impact on the local economy, created by Firms 'A', 'O' and 'R' equalled 2,671,863 dollars in wages and 179 jobs. In terms of job creation, Firm 'R' created the greatest number of short term jobs per 1,000,000 dollars of industrial development bonds with 21.3 jobs. Firms "A" and 'O' were nearly equal in the number of short term jobs per 1,000,000 dollars of industrial development bonds with 16.5 and 15.1, respectively.

The construction of Firm 'A' was insured by an agency of the federal government. When a project is constructed with federal assistance, the developer must pay the construction workers the prevailing wage rate. This increased the cost of labor for Firm 'A'. The average worker on Firm 'A' was paid approximately 4,000 dollars more than their counterparts on other projects.

The total new long term employment of the four projects was 247. The direct income generated 2,236,000 dollars in wages for 1982. The 28 basic industry jobs created 553,905 dollars in indirect income. Firm 'R' created the most new jobs, 214, while Firm 'A' created the fewest, four.

If the 300 jobs saved by Firm 'M' were added to the nine new jobs, Firm 'M' would have had the greatest impact on long term employment with 309 basic industry jobs. The direct income of Firm 'M' was 5,253,000 dollars. The indirect income from Firm 'M' was 5,200,470 dollars. If
Firm 'M' were to have shut down, 10,453,470 dollars in direct and indirect income would have been lost.

None of the projects had a negative impact on the water and sewer systems affected by the projects. Every project paid user fees greater than the average cost of producing the service. This means they were subsidizing the rates of other users. Also, no other development had to be foregone because these projects were consuming too much of the services provided by the utilities. It would appear that large scale users are good because they subsidize the cost of the service to small scale users.

Only Firm 'A' had a negative impact on the street system. The siting of Firm 'A' on a street that was already operating at a level approaching an unstable traffic flow made the situation even worse. The increased traffic from Firm 'M' was so minor it did not have an effect on the level of service on the adjacent highway. Firms 'O' and 'R' had little or no impact on the streets adjacent to their respective developments because the levels of service were at level C or better.

Three of the four projects were located outside the city limits of Knoxville. This benefited the county more than the city in terms of tax revenues. In 1983 the county collected 130,380 dollars in taxes whereas the city collected 10,514 dollars in taxes from these projects. Firm 'R' generated the greatest amount of taxes per 1,000 dollars of
industrial development bonds with 13.41. Firm 'M' was next with 10.89/1,000 dollars and Firms 'O' and 'A' generated 9.83/1,000 dollars and 5.43/1,000 dollars, respectively.

If industrial development bonds were necessary for the purchase of Firm 'M', it would have been the most publicly beneficial use of industrial development bonds of projects studied. Three hundred and nine jobs and 5,253,000 dollars in wages were directly affected. An additional 5,200,470 dollars of indirect income was also generated. Firm 'M' paid 43,571 dollars in property taxes in 1983. It also had a limited impact on the water, sewer and adjacent highway systems. Firm 'M' had a greater beneficial economic and fiscal impact than all of the other projects combined, if industrial development bonds were necessary for its purchase by local investors. If not, Firm 'R' would have had the greatest economic and fiscal impact. Table 12 shows the economic and fiscal impacts of the four firms. The figures for Firm 'M' assumed the need for industrial development bonds.
TABLE 12
ANNUALIZED ECONOMIC IMPACT - 1982 LEVEL
(in thousands)

<table>
<thead>
<tr>
<th>Firm</th>
<th>A</th>
<th>M</th>
<th>O</th>
<th>R</th>
</tr>
</thead>
<tbody>
<tr>
<td>Long-term Direct</td>
<td>47</td>
<td>5,253</td>
<td>599</td>
<td>1438</td>
</tr>
<tr>
<td>Long-term Indirect</td>
<td>0</td>
<td>5,200</td>
<td>402</td>
<td>0</td>
</tr>
<tr>
<td>Property taxes</td>
<td>19</td>
<td>44</td>
<td>28</td>
<td>50</td>
</tr>
<tr>
<td>Total</td>
<td>66</td>
<td>10,497</td>
<td>1,029</td>
<td>2,519</td>
</tr>
</tbody>
</table>

Conclusions

The use of industrial development bonds in Knox County has generally been beneficial. All of the projects have had a positive effect on property values, all have created new employment, and all pay water and sewer user fees in excess of the average cost of producing the service.

This study shows that basic industry jobs have a greater impact on the economy than nonbasic jobs. A basic job in a business located in Project 'O' generates more than 2.5 times the income of a nonbasic job in a business located in Firm 'O'. Table 13 shows the impact on the economy of basic and nonbasic jobs.
TABLE 13
LONG - TERM INCOME GENERATED PER EMPLOYEE
IN BASIC AND NON-BASIC INDUSTRIES 1982

<table>
<thead>
<tr>
<th>Firm</th>
<th>Income Generated</th>
</tr>
</thead>
<tbody>
<tr>
<td>'O' (basic)</td>
<td>$42,575</td>
</tr>
<tr>
<td>'O' (non-basic)</td>
<td>17,500</td>
</tr>
<tr>
<td>'M' (basic)</td>
<td>33,830</td>
</tr>
<tr>
<td>'A' (non-basic)</td>
<td>11,625</td>
</tr>
<tr>
<td>'R' (non-basic)</td>
<td>6,717</td>
</tr>
</tbody>
</table>

It would seem evident from Table 13 that a community should pursue basic industries, when using any tool for economic development, because they produce a greater return on a community's investment than do nonbasic industries.

The negative impact of locating Firm 'A' on a narrow two lane road illustrates the lack of comprehensive planning and implementation of economic development in Knox County, Tennessee. If economic development had been coordinated with capital improvements, the danger to motorists on the adjacent highway would be less than it is now.

The Knox County Industrial Development Board's approach to issuing industrial development bonds indicates a lack of cooperation among local agencies. There needs to be an assessment of the community's strengths and weaknesses. The strengths need to be promoted and the weaknesses should be overcome. A centralized agency is needed to assist
potential developers and businesses in cutting through the governmental red tape, to assist them in finding location sites and development financing.

This study shows that firms created with the assistance of industrial development bond financing generated property taxes and income. But it does not prove that industrial development bond financing is absolutely essential to development. Many, if not all of these developments may have occurred without the use of industrial development bonds. Retail establishments must have a market for their goods and apartments would not be constructed if there was not a need for housing.

Industrial development bonds are a useful economic development tool. In most cases, the use of industrial development bonds does not cost local governments anything. The attitude of many local officials is that since it doesn't cost anything to issue the bonds, bonds will be issued to any developer seeking them. There may be a hidden cost in issuing industrial development bonds. This is opportunity cost. The Deficit Reduction Act of 1984 placed a limit on the aggregate amount of industrial development bonds that could be issued in a state annually. If the limit is relatively low in a state, financing developments that create few jobs, or low paying jobs, may prohibit the development of projects that create more and/or better paying jobs. State and local governments should assist
those industries that have the largest impact on the economy.
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APPENDICES
APPENDIX A

QUESTIONNAIRE OF BUSINESSES

Survey of Businesses Benefiting From
Industrial Development Bonds

The facility your business is in was constructed with
industrial revenue bonds (IDB).

The purpose of this survey is to provide firm specific data
on businesses located in IDB financed facilities. Anonymity
of all businesses is assured. The data will be used in a
study of the impact of IDB in Knox County.

1. Did this business exist in Knox County prior to 1980?
   Yes____  No____

2. Number of Employees
   2a. If you answered yes in #1, how many employees have been
       added to your work force since 1980? ______

3. Average wage in 1982 (for all employees) $__________

4. Total payroll for 1982 $ __________

5. If this is an apartment complex, how many units are
   there? __________

ANSWER QUESTIONS 6 & 7 ONLY IF YOUR BUSINESS OPERATES THE
FACILITY.

6. Would this facility have been built or purchased if IDB
   financing was not available?
   Yes____  No____

7. Were any other government inducements offered to you to
   get you to locate in Knox County?
   Yes____  No____

7a. If yes, what were they?

_____________________________________________________________________

_____________________________________________________________________

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QUESTIONNAIRE ON UTILITY COSTS AND CAPACITIES

Instructions: Fill in the blanks following each question. The numbers you provide are to be for the year 1982.

(Utility)

1. What was the maximum daily capacity of the water system during 1982? ______ million gallons per day.

2. What percentage of the water system's maximum daily capacity was being used daily? ______ %

3. What was the maximum capacity of the waste water system during 1982? ______ million gallons per day.

4. What percentage of the waste water system's maximum daily capacity was being used daily? ______ %

5. What did it cost the utility to provide water in 1982? $______ per 1,000 gallons

6. What did it cost the utility to treat waste water in 1982? $______ per 1,000 gallons

1 The cost should include maintenance and operation, debt retirement and interest payments and personnel and administration.
APPENDIX B

SHORT - TERM EMPLOYMENT AND WAGE FIGURES

FIRM 'A'
1. \[0.327 \times 3,225,000\] = $1,054,575 on-site wages
2. \[33.2 \times 3,225\] = 107,070 on-site employee hours
3. \[107,070 \div 1,800\] = 59.48 employees
4. \[\$1,054,575 \div 59.48\] = $17,729 average yearly wage

FIRM 'O'
1. \[0.267 \times 2,194,483\] = $585,927 on-site wages
2. \[36.0 \times 2,194.483\] = 79,001 on-site employee hours
3. \[79,001 \div 1,800\] = 43.89 employees
4. \[\$585,927 \div 43.89\] = $13,350 average yearly wage

FIRM 'R'
1. \[0.303 \times 3,400,000\] = $1,031,362 on-site wages
2. \[40.9 \times 3,400\] = 139,060 on-site employee hours
3. \[139,060 \div 1,800\] = 77.26 employees
4. \[\$1,031,362 \div 77.26\] = $13,350 average yearly wage

LOCATION QUOTIENT

SIC #3993
\[
\frac{700/150,646}{7,550/22,061,410} = 13.57
\]

SIC #7392
\[
\frac{226/150,646}{48,983/22,061,410} = .6756
\]

SIC #891
\[
\frac{301/150,646}{15,739/22,061,410} = 2.8
\]

SIC #893
\[
\frac{571/150,646}{52,840/22,061,410} = 1.58
\]
VITA

Tim Leasure grew up in Alliance, Ohio. Seeking a change in climate, he completed his undergraduate degree at Northern Arizona University in Flagstaff, Arizona. Here he was awarded a Bachelor of Science in Political Science with a minor in Hopi Indian culture. He next attended the University of Tennessee Graduate School of Planning, where he was awarded a Master of Science in Planning degree in June of 1986. He currently resides in Philadelphia, PA.