Providing Capital to Small Businesses:
An Evaluation of State Development Incentives

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Imperfect capital markets make it difficult for small businesses to find private capital to finance plant expansion—expansion that creates jobs and provides tax revenues to the state. Capital market imperfections include risk aversion, statistical discrimination, high transaction and information costs, and concentration in capital markets. State economic development planners use a variety of programs to provide capital to small firms, including direct loan programs and industrial revenue bonds. Most programs operate on the assumption that reducing the cost of capital to small businesses is more important than making capital available at market rates. Studies have found, however, that capital availability—not cost—is the critical issue. Well-managed small firms should be able to meet reasonable debt service schedules based on unsubsidized interest rates.

Direct loan programs are usually funded by regular appropriations from tax revenues. Because they operate outside of private capital markets, direct loan programs are insulated from risk and return requirements that cause conservative banks and investors to deny capital to small businesses. Reliance on tax revenues for funding, however, limits the risk that direct loan programs can assume on loans, since political constraints on the level of acceptable
loan losses often force loan program administrators to adopt conservative lending behavior. Direct loan programs also tend to displace existing private sector loans since borrowers are attracted by the subsidized rates that come with government-provided direct loans. Direct loan administrators should extend their efforts to leverage private sector capital, to target loans to economically distressed areas, and to reduce or eliminate interest subsidies.

Industrial revenue bond programs capitalize on public bond markets to channel capital to small businesses. Because revenue bonds are issued by state or local development authorities, they can be offered as tax-exempt securities at lower interest rates. Revenue bonds are secured by the income streams of the firm on behalf of whom they are issued. Since small firms are perceived to be risky, potential bond buyers are no more willing to purchase bonds issued for small firms than they would be to finance small firms directly. In short, industrial revenue bonds fail to increase the availability of capital to small firms.

Tax-exempt industrial bonds face several restrictions. First, due to the high level of federal treasury losses arising from the frequent use of the tax-exempt option, several proposals to restrict the use of tax-exempt revenue bonds are now pending in Congress. Second, the size of the tax-exempt market is limited by growth in the number
of income-sheltering alternatives available to high-income individuals and institutions. Finally, the growing importance of tax-exempt institutional investors in the securities market, who have no need for tax-exempt income, also limits the market for industrial revenue bonds.

Several market-perfecting techniques that overcome the risk aversion of private-sector lenders are available to development planners. Risk pooling and risk spreading, which diversify the riskiness of a portfolio of investments and spread the risk among several investors, represent the most important mechanisms. Both direct loan and revenue bond programs can use mortgage insurance to reduce the risk of small-business lending and to encourage private-sector participation in public-sector loans. Umbrella-revenue bonding, which pools several small business loans into a single bond issue, can make revenue bonding a useful tool for directing capital to small firms. To protect themselves against possible restrictions on the use of industrial revenue bonds and to increase the flexibility of their bond programs, states should prepare to offer taxable bonds in the public market and to diminish interest subsidies.

The important point for economic development policy makers to understand is that states can use a variety of
approaches to secure their loan and bond programs. Insurance funds and bond and loan reserves do not involve putting the full faith and credit of the state at risk. Since most state constitutions prohibit recourse to tax revenues to support industrial revenue bonds, planners must be creative in the ways they attempt to reduce the risk of bonds or to increase the resources of direct loan programs. Ohio, New York, Pennsylvania, and Alaska have all developed innovative methods, ranging from the use of secondary markets to pledging special non-tax revenues to reserve funds. Small business financing is critical to any economic development program. By reducing the risk of investment in small business through capital-market-perfecting techniques, development planners will be able to develop programs that efficiently redirect capital to the small business sector.
INTRODUCTION

Small businesses play an important role in economic development. They are responsible for the creation of jobs and for the origination of innovative technologies; as a group they are also significantly more profitable than older and larger establishments. Their profitability is highly volatile, however, making small business investment quite risky. Because investors—individuals and institutions—tend to be quite risk averse, small businesses have an extremely difficult time accessing capital in the marketplace. The high information and transaction costs associated with small-business financing, and a lack of familiarity with particular products or production techniques further encourages investors to refuse to consider small business as a potential investment. The increase in jobs and tax revenues that results from the rapid growth of small businesses cannot be sustained without regular infusions of expansion capital. The support of small business expansion, therefore, requires public action to rectify capital market inefficiencies.

State development planners have three alternative policy approaches available when they wish to direct capital to small businesses unable to obtain capital in private and public markets. They can impose chartering and regulation on financial intermediaries; provide economic incentives and subsidies; and/or intervene directly into capital markets by establishing development finance institutions.
Regulation is the least risky and inexpensive approach but requires expert and creative use to have any appreciable effect upon capital flows in the private sector. Most states restrict their regulation of financial institutions to controlling the sources of financial funds, the uses of financial funds, and entry into and exit from capital markets. States rarely use their chartering powers to harness the resources and efficiency of the private sector to achieve designated public policies.

Direct intervention is complicated and expensive. Although several states (Massachusetts, Connecticut, and Alaska among others) have established effective development finance institutions, relatively few models exist. Development planners have tended to concentrate scarce resources on programs that provide subsidies, incentives, and grants to small businesses in an attempt to compensate for capital market failures. Incentives also enable states to compete in the inter-state scramble for job- and revenue-generating business expansion.

The purpose of this paper will be to investigate the degree to which the spectrum of state-sponsored incentives to businesses is effective in inducing small business development. This paper will analyze five major ways in which states provide incentives to increase the flow or reduce the cost of capital to small businesses: direct
loan programs, tax-exempt industrial revenue bond programs, loan guarantee and mortgage insurance programs, umbrella revenue bonding and taxable revenue bonds. We will briefly outline the importance of small business to economic development, examine the nature and scope of capital market inefficiencies, and evaluate the importance of cost of capital and availability of capital to small enterprise. The paper focuses on an evaluation of the five incentive mechanisms, analyzing each from the viewpoint of capital market theory and actual operations of existing models.

PART I: THE IMPORTANCE OF SMALL BUSINESS AND THE INEFFICIENCIES OF CAPITAL MARKETS

Small businesses provide jobs, innovate, and, as a class, operate at profit levels higher than larger enterprises. Recent research emphasizes the degree to which the birth of new firms and the expansion of existing firms determine the level of new employment created in a particular region. The physical relocation of large plants does not play an important part in regional economic growth.

Of the jobs created by the formation of new establishments, 85% are attributable to independent, free-standing entrepreneurs, with new branches and subsidiaries contributing a relatively small proportion. Of the jobs created by the expansion of existing businesses, almost 60% are
created by independent establishments. In general, firms less than four years old generate approximately 50% of all new jobs.

Small businesses also initiate a disproportionate amount of technological innovation and use that innovation to develop new products and production processes that fuel growth and create jobs. Mature companies tend to use innovation to reduce costs and often reduce employment by substituting capital for labor. A weighted measure of average annual compounded growth in sales and jobs indicates that for the period between 1945 and 1974, a sample of young innovative companies had twice the sales growth of a sample of mature companies and five times the employment growth. Smaller businesses, with their entrepreneurial roots and greater degree of flexibility, actively pursue innovation and put it to use to promote growth and produce jobs.

The profitability of small businesses is important as an indicator of the potential return on investment available to investors. A study of the profitability of manufacturing firms establishes that for the period between 1972 and 1976, businesses with assets less than $25 million averaged a return on equity of 13.62%, while businesses with assets more than $250 million averaged a return on equity of 12.68%. The relative profitability of small
firms as a class should make them attractive to investors. However, return on investment in small firms is as risky as it is potentially profitable. Risk (as measured by the year-to-year variation in return on equity) for smaller firms during the same period averaged 13% as compared to 10% for larger firms.\textsuperscript{4} The small business sector is extremely volatile: 43.9% of firms with fewer than 500 employees die within the first four years of operations.\textsuperscript{5} This higher risk, taken together with structural inefficiencies in the operations of capital markets, is an important factor in explaining why even growing, profitable, and innovative small businesses have such difficulty finding capital in the private sector.

Capital markets are notoriously risk-averse: individual and institutional investors are unwilling to make investments where the real rate of return can vary beyond narrow limits. Although higher risks could--and should--be compensated for with higher returns, investors usually simply refuse to consider risky investments. As a result, potential investors eliminate entire categories of potentially profitable investments, including most small businesses.

Capital-market risk aversion is exacerbated by three powerful factors that reduce the likelihood of investment in small business--high information costs, high transaction costs, and discrimination. Since smaller and younger
businesses rarely have established credit histories or easily accessible information concerning sales, earnings, and management, potential investors find it expensive and time-consuming to accumulate the data they need to evaluate the potential risk and return. Investors, therefore, tend to focus their efforts on larger and better established firms with well-known and accessible histories. There are relatively large legal and accounting costs associated with transacting an investment. Investors hesitate to finance smaller businesses since these fixed charges represent a higher proportion of smaller investments than they do of larger investments. Institutional discrimination against unfamiliar products, new markets, and the specialized plant and equipment often offered as collateral by smaller firms serves to underscore existing investor risk aversion. (For a fuller discussion of small business and capital-market imperfections see the companion paper to this report, "The State As 'Public Entrepreneur': Public Chartering of Privately Financed Development Institutions.")

PART II: CAPITAL COST V. CAPITAL AVAILABILITY

Development planners have focused their efforts on programs intended to subsidize the cost of expansion capital to existing businesses or to businesses considering inter-state relocation. Such subsidies are offered in
the belief that capital costs represent a large and easily manipulated factor in decisions to expand or relocate. As that decision-making process becomes better understood, however, it is apparent that capital cost plays a subordinate role to considerations of market size and composition and the availability and cost of land, labor, energy and raw materials.

Capital cost becomes important to the private sector only when geographical differences in markets and production costs are small. Land, labor and energy costs tend to vary dramatically with location, however, while capital costs tend to be constant across the country. Furthermore, total annual capital costs for manufacturing firms generally range from six to ten percent of the overall cost of production. Thus state development policies which attempt to improve a state's competitive economic advantage by subsidizing capital costs are targeted at a relatively insignificant factor on the corporate income statement.

For profitable, well-managed smaller businesses, the availability of capital—even at high interest rates—is a more serious problem than capital cost. Well-managed and growing firms producing marketable products can usually afford to meet reasonably structured finance schedules. A growing small business generates insatiable demands for
capital to finance product innovation, plant expansion, and
distribution systems. Capital market inefficiencies that
operate to prevent such small businesses from obtaining
capital at any cost limit the rate of sales and earnings
growth and reduce the rate at which new jobs are created
and new tax revenues generated. From both a business
development and public policy perspective, therefore,
making capital available at market rates to profitable
small firms is a far more efficient means for sponsoring
economic development than subsidizing capital cost.

Capital issues—both cost and availability—are
important to the development and expansion of small business.
Capital plays a crucial role in determining which entrepre-
neur can move from the pre-production to the production
stage or which existing business can expand into new markets.
Capital cost subsidies can be an important factor in help-
ing to equalize the higher land costs and increased risks
that come with locating or expanding a business in inner-
city locations. State development programs, however, often
lack the technical capacity to determine where capital
incentives are really needed and where they merely provide
windfalls to firms able to use private-sector financing
sources. Capital subsidies cannot, however, overcome basic
business problems. If other factors of production are too
costly, if the market for the product is too thin, or if
the firm is poorly managed, neither lower cost nor increased availability of capital will help.

Since state business development programs have scarce resources and technical capacities, it is important to determine which programs provide the most efficient means for inducing small business expansion. Direct-loan programs are the most widely used vehicle for providing capital subsidies and will be the first group of programs to be discussed.

PART III: DIRECT-LOAN PROGRAMS

Publicly managed business development programs provide financing and capital subsidies to small firms by lending bond-generated or tax-generated funds. Direct-loan programs are usually funded by regular appropriations from tax revenues. They usually must be used to finance plant construction and/or investments in equipment. Direct-loan programs allow public lending officers a great deal of flexibility--in negotiating rates and terms of a loan, in directing loans to particular kinds of firms or particular areas within a state, and in providing loans only to firms with demonstrated need for capital.

The attractiveness of direct loans to state development planners stems from the fact that loan programs are insulated from the risk and return requirements of the
private market. Loans can be made available to risky firms (risky does not mean marginal) without extensive credit histories, start-up ventures offering new products to untested markets, or to more mature firms with highly leveraged balance sheets. The attractiveness of direct loans to potential borrowers derives from the ability to tailor loan terms and repayment structures to the needs of the particular applicant, and from the increased availability of capital at reduced costs. The very same features that make tax-financed direct loans attractive, however, also make them questionable vehicles for channeling capital to small firms: insulation from the market fosters inefficient allocation of scarce resources, and reduction in capital costs may provide windfall financing to businesses without compensating job and revenue returns to the state.

In 1979, 19 states offered direct loans to finance building construction, and 13 states provided loans to finance plant and equipment. Some states provide loans for other purposes such as special small business development loans to firms that meet SBA definitions or working capital loans to small contractors. However, most direct-loan programs operate primarily as mortgage lenders, directing resources to building loans and plant expansion.

Loan programs are funded by one of three mechanisms: annually authorized appropriations from tax revenues, a
one-time grant of principal that forms the nucleus of a revolving loan fund, or by combination of revenue appropriations and funds raised in the public bond market. Annual appropriations provide regular infusions of capital to increase the loan program's lending capacity, but subject the authority to political accountability pressures that may force it to maintain disproportionately low losses by adopting conservative lending procedures. One-time grants of principal usually form the basis for "revolving loan funds" through which loan and interest repayments are recycled into new loans. Such programs are able to grow only moderately without supplemental appropriations: revolving-loan programs require long periods of time before they achieve an appreciably expanded lending capacity. Capitalizing on public bond markets to fund a loan program increases the sources of monies available to the program and reduces dependency on tax-based appropriations. Bond financing, however, forces the program to meet regular debt servicing requirements. This introduces a conservatizing factor into the lending process. Bond-financed loan programs often begin to make loans only to larger and older firms which can provide the stable cash flows to satisfy the program's own debt repayment needs.

The method by which a direct-loan program is funded has important repercussions for the sorts of loans the
program will be able to make and for the kinds of borrowers the program will be able to finance. In all cases, program administrators will have to negotiate carefully the path among several conflicting pressures: the pressure to provide capital to firms that need it most, the pressure to make safe loans, and the pressure to make many loans.

The willingness of a direct-loan program to absorb risk will determine both its success in making capital available to smaller businesses and its capacity to continue operations without regular infusions of funding. Since most programs provide subsidized capital (rates are usually set just below the current tax-exempt bond rate), excessive risk taking, and subsequent delinquencies in loan repayments will have large effects in terms of revenue losses to the state and political pressures on the program. Excessive caution will lead program administrators to lend only to the sorts of firms that conventional lenders finance, undercutting the intended role of a loan program to operate as an alternative to private market lenders. There is little evidence available to determine whether loan programs are making riskier loans than conventional lenders. The history of one loan program, however, demonstrates the degree to which some program administrators seek to minimize risk. The Pennsylvania Industrial Development Authority—the largest tax-financed state
lender--has written off losses of less than $250,000 on $554 million in loans made between 1956 and 1980. The point is not that loan programs should seek to increase losses, but rather that extraordinarily low losses may indicate that the program is not adequately fulfilling its mandate to provide loans to riskier firms.

The success of a direct-loan program depends largely on its ability to assess capital needs accurately. Such expertise determines the ability of the program to complement private market lending without substituting scarce public resources for loans that conventional lenders would ordinarily make. The only real economic justification for the existence of direct loan programs is that they offer capital to firms unable to obtain it independently in private markets.

Direct-loan program administrators need a high degree of expertise to distinguish firms that have legitimate requirements for subsidized state loans from firms merely seeking windfall financing. They must be able to separate marginal firms from businesses economically sound enough to justify a loan. Very few loan programs have the staff capacity to evaluate applications to determine need or underlying soundness. The result is a willingness to approve loan applications without assessment of need, increasing the likelihood that publicly provided loans
will be substituted for privately provided ones. Pennsylvania's loan program again demonstrates the seriousness of the problem. Between 1970 and 1975, the Pennsylvania Industrial Development Authority rejected only 24 loans while approving 427—an approval rate of over 94%. Ten firms were turned down because they did not qualify under the PIDA Act, five were rejected because they were not financially stable, and eight were turned down for failing to meet minimum job creation standards. 7

The subsidy provided by a direct-loan program is not nearly as important for economic development as is the ability of the program to direct flows of capital to the small business sector in ways that mitigate intra-state differentials in income and employment. Subsidies by themselves rarely have an economic multiplier effect. The borrowing firm realizes a windfall that seldom results in production or employment increases beyond what would have occurred without the subsidy. Direct-loan programs, however, can play an effective role in increasing the flow of capital to areas within a state experiencing high unemployment. A direct-loan program can use its resources to target distressed areas by directing an expanded volume of publicly provided loans to high unemployment districts within the state and by supporting its loans with sufficient technical support.
Few loan programs target their loans geographically, and those that do tend to focus their efforts on providing relatively shallow subsidies to expanding or relocating firms. Pennsylvania's loan program is able to advance a larger proportion of project costs for building construction in areas with high unemployment and provides larger advances to smaller companies. Connecticut reduces its loan origination fees for projects in high unemployment areas and provides additional working capital loans to smaller businesses in economically distressed regions. However, a study of Connecticut's development subsidy program demonstrates the relative ineffectiveness of current direct-loan targeting based on interest subsidies. The cost of production in urban locations in Connecticut is 7%-11% higher than the cost of production in suburban and rural locations. High unemployment targeting of loans reduces costs by only 2% for most firms and by 4% for larger ones, hardly enough to compensate for higher production costs.8

Some targeting is preferable to none at all. For targeting to become truly effective, however, it must appreciably increase net inflows of capital into distressed areas, either by making large amounts of capital available at near-market rates or by providing smaller amounts of capital accompanied by very deep and expensive subsidies.
The financial and managerial resources available to a direct-loan program are limited. To maximize the effectiveness of public loans, loan program administrators attempt to link direct loans with financing provided by the private sector. Few direct-loan programs, however, have been successful in leveraging large additional commitments from conventional lenders to supplement public lending. The hesitancy of private-sector lenders to participate in joint sponsorship of mortgages reflects the high opportunity costs associated with lending at subsidized rates--banks find it both more profitable and easier to lend to larger borrowers at market rates.

Summary of Direct-Loan Programs

The following points summarize our discussion of direct-loan programs:

1. Direct loan programs provide a flexible mechanism for making capital available to smaller and riskier firms. The insulation of such programs from market signals, however, can lead to inefficient allocation of resources.

2. The subsidies provided by direct loan programs are ineffective in changing plant location and expansion decisions and waste scarce tax revenues.

3. Dependence on appropriations from tax revenues leads to stop-and-go funding and reinforces conservative lending practices.

4. Direct-loan programs can play a potentially important role in directing capital to economically distressed areas within states but currently fail to target their resources adequately.
5. Loan programs can leverage capital in the private sector to increase overall levels of small business financing, but current attempts to leverage public loans have not been as effective as they could be.

A successful direct-loan program requires close managerial control to ensure that loan applications are evaluated to determine need and that subsidies are not provided where they can have little economic effect. A more useful vehicle for redirecting capital flows would enable states to harness the resources of private capital markets. Industrial revenue bonds offer a less costly, though still imperfect, mechanism for providing expansion capital to small businesses.

PART IV: INDUSTRIAL REVENUE BONDS

Forty-seven states have established industrial development agencies authorized to issue revenue bonds. Tax-exempt revenue bonds capitalize on provisions of the federal tax code which allow states to confer their tax-exempt status on private financing efforts for rather broadly defined "public purposes." Industrial development has been found to fit this definition. Most states have been quick to capitalize on this incentive which occurs at the federal government's expense—and which is viewed as having no expense to the state.
Interest rates on tax-exempt bonds currently range from 4.5 to 10.5 percent. Consequently, IRBs are attractive to investors in high marginal tax brackets because the interest is tax-exempt and the return compares favorably with taxable instruments of equivalent risk. The bonds are attractive to borrowers because their interest payments on a tax-exempt bond are significantly lower than interest payments on comparable taxable borrowing.

Industrial revenue bonds are self-sustaining. They are secured by the lease payments on or purchase of developed land by the borrowing business. Consequently, industrial revenue bonds have limited usefulness for small business development since investors look beyond the issuing agency to evaluate the creditworthiness of the borrower. Investors who generally view small business investments as too risky will not be assuaged simply by packaging those investments in a revenue bond.

Industrial revenue bonds are really mortgage loans mediated by a governmental agency that confers tax-exempt status on the transaction. The borrower approaches a local or state development agency and negotiates the terms of a bond issue, the proceeds of which finance plant construction or expansion. Typically, the agency then privately places the bond with commercial banks, institutional investors, or individuals in high marginal tax
brackets. Banks find it particularly profitable to purchase IRBs since they can hold what is essentially a loan in their bond portfolio without increasing the bank's loan-to-deposit ratio (which is subject to government regulation).

In addition to negotiating bond terms, borrowers must ensure that the project financed satisfies restrictions imposed by the Internal Revenue Service.

1. A single IRB cannot exceed $10 million.

2. When the bond issue is greater than $1,000,000, total capital expenditures by the borrower within the same municipality cannot exceed $10,000,000 over a six-year period (three years before and three years after the bond date). When the bond issue is less than $1,000,000, the expenditure restriction does not apply.

3. When the bond issue involves a project funded by an Urban Development Action Grant from the Department of Housing and Urban Development, the maximum expenditure limit is $20,000,000, but only $10,000,000 of the bond issue will have tax-exempt status.

4. When the bond issue involves pollution control or waste disposal facilities, no expenditure limit applies.

The balance of this paper will describe and analyze the effectiveness of IRBs as a mechanism for increasing the availability of capital to small businesses. It will examine the problems associated with the way states currently use industrial revenue bonds and suggest devices such as mortgage insurance that states can use to make IRBs a more
useful tool for directing capital to the small business sector. The paper will conclude with an assessment of umbrella and taxable revenue bonds as innovative mechanisms for increasing capital availability to small business.

The Effectiveness of Industrial Revenue Bonds

In theory, industrial revenue bonds have certain advantages over direct-loan programs in making capital available to small businesses. Bond financing enables development authorities to tap the capital resources of the private sector directly, eliminating both the need for regular legislative appropriations and the opportunity for political intervention into the lending process. Capital subsidies provided through the bond mechanism are absorbed by the federal treasury. Although this represents a savings to the state, it also forms the basis for possible federal controls on the future usage of IRBs. In periods of high interest rates, federally absorbed subsidies offer states an attractive means for reducing the debt-servicing demands on small business borrowing. Further, in several states, firms using IRBs are exempt from local property taxes because technically they are leasing publicly owned land and buildings.

In practice, however, industrial revenue bonds have serious problems that limit their effectiveness for development finance. Those problems reflect the fact that I) IRB
subsidies are not effective in changing business location decisions; 2) IRB usage is no longer restricted to industrial firms, the proven job and tax revenue generators; and 3) IRBs do not increase the availability of capital to firms typically excluded from the capital markets.

First, the primary justification made by development planners for using IRBs is similar to the justification put forward in defense of direct-loan programs: capital subsidies induce businesses to relocate or expand operations where they otherwise would not. The interstate competition for new jobs and business relocations that helps fuel the increased usage of industrial revenue bonds is based on a relatively weak foundation. Between 1969 and 1976 only 554 of the 140,000 manufacturing plants with twenty or more employees relocated from one state to another. Interstate branch plant expansions and the establishment of interstate subsidiaries account for only 20% of new jobs created nationwide.9

The same problems associated with direct-loan subsidies afflict subsidies provided through revenue bonds. Capital costs are not a large part of total production costs, and subsidies are rarely deep enough to alter location decisions made for reasons more closely dependent on an assessment of market or labor availability. Those relocations that do occur result from decisions made for reasons not easily
affected by state planners. Subsidies may be useful to small firms in times of high interest rates but most capital subsidies waste resources. The fact that IRB subsidies are absorbed by the federal treasury does not minimize the waste—in fact, rapidly increasing federal revenue losses attributable to tax-exempt industrial bonding may lead to federal controls on IRB usage.

Second, until the early 1970s, most industrial revenue bonds were issued on behalf of manufacturing firms or to finance pollution control expenditures and waste disposal facilities. Industrial revenue bonds could be issued only in support of a legitimate "public purpose," usually defined to be the creation or maintenance of jobs and the generation of tax revenues that result from plant expansions. During the 1970s, the use of IRBs proliferated, both in terms of kinds of establishments financed and the volume of bonds issued. Revenue bonds are now used routinely to finance commercial ventures, including retail firms and bank branches—business facilities that usually have access to conventional sources of capital and that create relatively few new jobs or tax revenues. The volume of bonds issued has grown from approximately $1.6 billion in 1968 to an estimated $7 billion in 1979. Over 5,000 IRBs were issued in 1979. Tax losses to the federal treasury amounted to over $2 billion.
The proliferation of small-issue industrial revenue bonds during the last decade has three important repercussions. First, the increased volume of IRB issues increase the cost of municipal borrowing for a broad spectrum of uses. The market for municipal tax-exempt bonds is limited. As more and more tax-exempt revenue bonds flood the market, municipalities must raise the yields on general obligation bonds they issue to finance school districts or infrastructure improvements. The Public Securities Association estimates that tax-exempt revenue bonds will account for approximately 75% of the dollar volume of municipal bond sales in 1980.

Second, industrial revenue bonds raise questions concerning equitable tax treatment of similar businesses. Tax-free financing may grant an unfair advantage to certain businesses over competitors that must borrow at higher, taxable rates. Third, IRBs have important substitution effects. Funds invested in IRB-supported development may simply be shifted from industrial development that would alternatively have been financed by conventional sources.

Third, the capital market inefficiencies discussed in Part I obstruct the flow of capital to the small business sector. The risk aversion of private investors can theoretically be circumvented by direct loans provided by development authorities. Industrial revenue bonds, however, are offered to the same risk-averse private-market actors who typically avoid small business lending.
Self-sustaining revenue bonds provide no additional security to potential investors beyond the payments of the borrower that secure the issue. In short, industrial revenue bonding is not a market-perfecting technique. It does not alter the market behavior of investors by increasing their willingness to buy the bonds issued on behalf of small firms. Though the average size of IRB issues since 1968 has fallen to $3.5 million (from $18.4 million before 1968), investors still prefer to purchase the bonds of larger and less risky firms with well-established credit histories. The smaller businesses that have successfully used the tax-exempt bond market have been just those credit-worthy firms that would have been able to arrange conventional loans at market rates.

In order to make industrial revenue bonds into useful mechanisms for providing capital to small businesses, they must be transformed into market-perfecting tools. Three techniques have proven successful in providing the kind of additional security that encourages risk-averse investors to purchase IRBs issued for small businesses. Guarantees and mortgage insurance reduce the risk exposure of potential investors. Umbrella revenue bonds pool the diversified risks of several small projects into one issue whose overall riskiness is less than the risk of any project by itself.
Guarantee Programs and Mortgage Insurance

Direct-loan and revenue-bond programs attempt to increase the participation of conventional lenders by providing guarantees or insurance to reduce the risk attached to the loan or bond. Guarantees are the more widely used of the two approaches--14 states provide guarantees for building construction and 12 for equipment purchases. A well-administered guarantee system reduces the risk aversion of private investors, inducing them to lend to firms they would otherwise reject or to purchase bonds they would otherwise pass up. Program administrators can preserve the effectiveness of a guarantee program by establishing eligibility requirements that 1) restrict guarantees to firms that really need them (low loan ceilings to target loans to small firms, proof of private market rejection, etc.); 2) by charging guarantee fees that accurately reflect the cost of the guarantee (which screens out marginal applicants); and 3) by leaving a sufficiently large part of the loan unguaranteed to ensure that the private lender effectively monitors its part of the loan. Subsidized direct-loan funds augmented by guaranteed conventional financing at market rates can be made available to a larger pool of small businesses at effective interest rates much below what conventional lenders themselves would charge. The problem with
loan guarantees, however, is that they are often secured by ultimate recourse to the full faith and credit of the state. Guarantees funded by tax revenues place state resources at unnecessary risk. Other support structures are available which reduce the degree of risk absorbed by the state.

An actuarially sound mortgage insurance program is always preferable to a guarantee system, since mortgage insurance is funded by premium payments made by borrowers and does not place state revenues at risk. Mortgage insurance for public bond issues operates in much the same manner as it does in the private sector. Mortgage insurance is usually applied to the highest risk portion of projects financed by a bond issue. The reduced exposure to risk makes investors more willing to invest funds in support of small businesses, increasing the market-perfecting nature of the industrial revenue bond.

Mortgage insurance pools can be established by legislative appropriation or by charging insurance premiums to bond borrowers. The insured portion of the bond must be sufficiently large to provide meaningful security against default to potential investors. The reserve fund stands behind each bond in the bond pool of the issuing authority, but the fund ultimately consists of a finite amount of money. The size of the fund in relation to the total volume of bonds it secures varies from state to state. New Jersey's
insurance fund secures a bond volume three times its size and Massachusetts' fund a volume ten times its size.

Development authorities charge premiums either as flat percentages of bond size or as a sliding percentage based on actuarial assumptions concerning the riskiness of the bond. A premium structure that adequately reimburses the issuing authority for the costs incurred in insuring the bond is preferable to flat percentage payments. Issuing authorities must also determine the appropriate portion of the bond to insure. Mortgage insurance often enables smaller borrowers to leverage additional capital: the banks that usually purchase the bonds will lend their own funds against an insured bond. A finite mortgage insurance fund, however, can secure only a limited number of bonds. Bond program administrators can apply large insurance commitments against relatively few bonds or insure only the riskiest portion of many bonds.

The Massachusetts Industrial Finance Agency (MIFA) administers a representative mortgage insurance program. MIFA's insurance fund was established in 1978 by a $2 million legislative appropriation. This initial capitalization has been augmented by the stream of premium payments on insurance commitments made since the program began operation. In 1980 the fund amounted to just over $5 million and had not experienced any loss claims.11
MIFA is restricted by law from insuring more than $400,000 per bond for real estate costs and $250,000 for equipment expenditures. MIFA establishes premium charges on a case-by-case basis, though rates generally range between one and two percent per year, computed on the insured portion of the outstanding principal. The agency charges a one-time insurance commitment fee amounting to 1% of the insurance granted, and levies additional charges for extensions of or changes in the terms of the insurance commitment. MIFA seeks to insure only the riskiest portion of the bond, committing insurance for 10%-40% of the "loan" provided by the bond investor. During 1979, the Agency provided over $2.3 million in mortgage insurance on $12.4 million of industrial revenue bonds. Over two years of operation, the agency has offered approximately $6 million in insurance.\(^12\) MIFA's insurance program does not guarantee that small businesses can participate fully in the revenue bond market. It does, however, facilitate greater capital flows to the small business sector by reducing perceived risk to the investor.

**Umbrella Revenue Bonds**

Umbrella revenue bonds represent a genuine market-perfecting mechanism for tapping the resources of capital markets in support of small business development. Three states—Connecticut, Massachusetts, and Alaska—have the
authority to issue umbrella bonds but only Connecticut has actively pursued this approach to date. Umbrella revenue bonds are issued by a central agency which packages several projects together after evaluating them for financial soundness. The package is then sold to investors in the public bond market. Public sale of umbrella bonds, as opposed to private placement of self-sustaining bonds, serves to spread risk among many individual investors and may avoid capital substitution by importing financial soundness.

The umbrella package is secured by the lease payments of the participatory borrowers but the overall risk of the bond is reduced since the package is a diversified portfolio of projects. The umbrella revenue bond's total risk is a weighted average of the risks of the borrowing businesses. Some firms will provide a greater return than expected, some a lesser return. The basic assumption behind umbrella revenue bonds is that the overall average risk more closely approximates a level acceptable to potential investors than any of the individual risks. Risk is further often reduced by mortgage insurance. Umbrella revenue bonds, therefore, make the revenue bond market accessible to small businesses in a way that industrial revenue bonds, with their emphasis on the creditworthiness of a particular firm, cannot.
The experience of the Connecticut Development Authority (CDA) is instructive in demonstrating the small business development possibilities of umbrella revenue bonds. The Authority is authorized to issue umbrella bonds up to an aggregate of $100 million of bonds outstanding. During the 1979 fiscal year, CDA issued close to $29 million in umbrella revenue bonds for 67 firms at interest rates ranging from 7.2 to 9.3 percent, depending on CDA bond costs. The average size of the individual project loans that formed the bond packages was approximately $430,000 and ranged from $8,000 to $850,000, the statutory limit. In comparison, the average loan size for CDA's industrial revenue bond program was $2,279,000 and ranged from $480,000 to $7,800,000 at interest rates between 6.75 and 8.5 percent. CDA umbrella bonds may be used to finance 90% of the cost of land and buildings up to a limit of $850,000 over 25 years and 80% of the cost of machinery and equipment up to $500,000 over 10 years. These statistics underscore the umbrella bond's usefulness for providing capital to small businesses.  

CDA's umbrella revenue bond program goes to extreme lengths to eliminate investors' concern over perceived risks associated with investing in small businesses. The Authority absorbs the high information costs that often discourages investment in small firms. CDA's staff collects
the information and carefully evaluates prospective borrowers to ensure that only businesses in solid financial condition become part of its umbrella bond packages. CDA provides additional security to investors through its mortgage insurance program which guarantees up to 98% of the bond issues. The insurance program is funded by borrower premiums pegged to private mortgage insurance rates plus .5%. CDA also establishes reserve funds for each issue from proceeds from the original bond issue. Finally, and as a last resort, CDA's umbrella revenue bond program pledges the full faith and credit of the state of Connecticut behind each umbrella revenue bond offering. To date CDA has not been forced to use any of the support structures that stand behind its umbrella bonds.

CDA's umbrella concept also makes bond financing attractive to its small business borrowers by reducing the transaction costs associated with bond applications. Legal and accounting fees represent large fixed costs for any individual borrower. CDA's umbrella packages spread those fixed costs over one larger packaged bond issue. Thus, fixed transaction costs are shared, placing a smaller burden on the total offering.

The Connecticut Development Authority's umbrella loan program illustrates both the difficulties and the possibilities of financing small business expansion. The fact
that CDA must provide several layers of security to support its umbrella program demonstrates the degree to which risk aversion in the private sector acts to obstruct small business lending. The fact that CDA is able to package its projects into bonds that reduce overall risk attests to the usefulness of umbrella bonds as a genuine market-perfecting techniques for directing capital flows to borrowers traditionally locked out of private capital markets.

PART V: TAXABLE BONDS

Guarantees, mortgage insurance and umbrella bonding provide states with mechanisms for increasing the usefulness of industrial revenue bonds for small business financing. The future role of revenue bonds is obscured, however, by the likelihood that federal restrictions will limit the nature and extent of industrial revenue bond issues—much as the federal government has moved to restrict the size of the housing revenue bond market. The dynamics of the market for industrial revenue bonds also indicates that there are natural limits to the amount of tax-exempt bonding that can be supported by private investors. State development planners, therefore, should begin to consider the possibility of financing small business expansion by issuing taxable revenue bonds. These bonds would be supported by the same
market-perfecting mechanisms now used to reduce the riskiness of tax-exempt revenue bonds.

A recent study by the Congressional Budget Office estimates that more than $7 billion in industrial revenue bonds were issued during 1979. A Treasury Department analysis of the tax revenue losses to the federal government resulting from the tax subsidy provided by industrial revenue bonds shows that for every $1 billion dollars in revenue bonds used, the federal treasury loses $37 million in that year, with continuing losses to the Treasury over the life of the bond. In 1979, those first-year losses amounted to over $260 million.¹⁴

Congressional restrictions on the housing revenue bond market have already been adopted. These restrictions will severely limit the volume of housing revenue bonds offered. Similar restrictions on industrial revenue bonds seem likely: the House Ways and Means Committee will hold hearings in November to consider limitations on the industrial revenue bond market, focusing particularly on the growing use of revenue bonds to finance commercial projects. Senate proposals to restrict industrial revenue bond usage to economically distressed areas are also pending.

Possible federal restrictions on the use of industrial revenue bonds are paralleled in importance by the fact that over the last two decades Congress has created a whole host
of more attractive tax shelters for traditional buyers of tax exempts which has already very seriously curtailed the size of the market. For example, commercial banks have historically been the most important buyers of tax-exempt bonds. Today, they have much better tax shelters in the guise of the federal investment tax credit and foreign tax credit. Thus, even if Congress fails to adopt restrictions on industrial revenue bonds, the market for tax exempts is a shrinking one.

Development planners should also recognize that the fastest growing sector of public capital markets are institutional investors--pension funds, foreign governments, unions, etc. As recently as ten years ago, individuals owned 70% of all traded stocks and bonds. Institutions owned only 30%. Today those figures are reversed: 30% individuals and 70% institutions. Virtually all of the institutions are tax exempt, with tax-exempt pension funds forming the largest part of the institutional sector. Since institutions are tax exempt, they gain nothing from buying a tax-exempt bond--their income is already sheltered. Such institutional investors want only the higher interest income provided by taxable bonds.

Federal restrictions, competition from alternative tax-exempt instruments, and a shrinking market for tax-exempt bonds all combine to reinforce the importance of issuing
taxable as well as tax-exempt industrial revenue bonds. State development authorities should be empowered to package taxable as well as tax-exempt bonds for sale either to the buyers of tax-exempt bonds, or to institutional investors. Taxable bonds would compete in the same market as other taxable securities but would provide the development authority with flexibility to meet the changing demands of a changing securities market. To reduce risk inherent in purchasing taxable bonds secured by the revenues of small firms, states can provide market-perfecting support structures such as mortgage insurance and umbrella bonding. One state bonding agency, the Alaska Industrial Development Authority (AIDA), is already empowered to offer taxable umbrella bonds, although it has not issued any to date.

Since the problem for most small businesses is access to capital and not its cost, a profitable, well-managed company should be able to pay market rates for capital and not require the subsidy channeled indirectly by tax-exempt bonds. If state legislatures determine that subsidies are appropriate, they can annually authorize them from current revenues: whenever possible, interest subsidies should be provided directly so that costs to the state are identifiable and administrators can be held accountable.
PART VI: INNOVATIVE METHODS FOR SECURING REVENUE BONDS AND DIRECT LOANS

The premise that underlies this paper is that states need to utilize risk-pooling and risk-spreading mechanisms to increase the attractiveness of small business financing to risk-averse investors. The goal, however, is for states to provide that security in ways that do not place the state at risk. In fact, most states are constitutionally prohibited from pledging their revenues, directly or indirectly, as ultimate security for bonds that finance private-sector firms. Mortgage insurance provides one method for eliminating the state's liability, since borrowers fund the insurance reserve fund through additional premium payments. In this regard, an actuarially sound mortgage insurance program is preferable to loan guarantees, since loan guarantees may force the state to cover the payments on defaulted bonds from general revenues.

Creative policy makers have designed several other innovative programs that provide security for bonds while meeting the particular needs of particular states. The Pennsylvania Industrial Development Authority (PIDA) has used its pool of direct loans to secure the issuing of over $75 million in industrial development bonds. PIDA's direct-loan program has pursued a very conservative lending strategy (which is not necessarily an appropriate approach for a
public lending authority) and built up a portfolio of strong loans with a steady income stream resulting from the debt service payments by its borrowers. PIDA uses its loan portfolio and its income streams to provide additional security for revenue bonds issued on behalf of individual firms. The state does not place its full faith and credit at risk--PIDA itself secures the bond--and risk-averse investors are induced to purchase bonds they would otherwise pass up. The important point here is that even a direct-loan program that takes greater risks than PIDA in lending to small firms can pursue a similar strategy for securing bond issues.

A well-managed loan program should have a diversified portfolio of both relatively riskless and relatively risky loans. Such a program could choose from its portfolio the less risky loans and use them to secure a bond issue in much the same way PIDA does.

The New York Job Development Authority (NYJDA) has used an innovative, if complicated, secondary marketing technique to expand its lending capacity. The Authority, which makes low-interest loans to businesses expanding operations within the state, has $134 million in loans outstanding. By March 1980, NYJDA had approved 1,045 loans during 18 years of operations.

The Job Development Authority raises the funds it lends by selling bonds in public and private markets. The agency's
bonding authority is currently $150 million. A constitutional amendment to increase it to a $300 million recently stalled in the legislature, leaving NYJDA with only $16 million to lend over the next two years. To provide the Authority with an interim increase in authorization, the legislature empowered the agency to sell $60 million in bonds through a trustee (so that legally it did not exceed its $150 million bonding capacity) to a mutual fund. The proceeds of the sale will be used, through the trustee, to buy $60 million of existing state-guaranteed Job Development Authority mortgages. The bond sale represents an innovative way to provide a secondary market for the relatively illiquid assets—industrial mortgages—held by the Job Development Authority. The same mechanism can be used by any state development authority with a loan portfolio sufficiently solid to enable the authority to sell portions of it to private sector investors. The proceeds of the sale can finance new loans or can form the nucleus of a reserve fund large enough to secure the issuance of small business development bonds. In either case the credit of the state is not placed at risk.

The Ohio Development Finance Commission and the Department of Economic Development (DED) have recently been empowered to use profits from state liquor stores to form a reserve fund to secure industrial revenue bonds issued
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by the state. DED has more than $150 million in industrial revenue bonds outstanding, and provides first or second mortgages for firms expanding within the state or relocating to Ohio. The new revenue bond program will be secured by $15 million in liquor store profits and is authorized to make $500 million available to firms in the form of grants, loans, guarantees, and bonds. The liquor profits are specifically earmarked to form a reserve fund for a revenue bond program geared to making bonds available in geographically targeted "reinvestment areas." The targeting feature of the program is as important as the innovative nature of its financing, since few revenue-bond and direct-loan programs concentrate their relatively scarce resources on economically distressed areas. Ohio determines reinvestment designation on the basis of population growth rates, income growth rates, and growth rates for the assessed value of property among other criteria. Fifty percent of its bonding capacity is reserved for small firms (less than 400 employees). The important point is that Ohio's revenue-bond program is secured by designated liquor profits and does not involve recourse to the faith and credit of the state.16

PART VII: POLICY RECOMMENDATIONS

The following recommendations represent a synthesis of the policy findings presented in this paper:
1. Capital subsidies waste scarce taxpayer revenues. Development planners should focus their direct-loan resources on making capital available to small firms at rates close to market level.

2. Public loans and revenue bonds often displace private capital. Development planners must carefully evaluate applications from borrowers to determine which firms cannot obtain capital from private-sector sources. Neither loans nor bonds should be issued to marginal firms unable to meet normal debt servicing requirements.

3. Substantial portions of direct loans and revenue bonds should be targeted to economically distressed areas in order to maximize the effect of capital on job formation and economic development.

4. Investors tend to be risk averse. Planners should use risk pooling and risk spreading techniques such as mortgage insurance and umbrella bonding to reduce the risk of investments in small businesses.

5. An actuarially sound mortgage insurance program is preferable to loan guarantees that rely on state revenues. Development planners should always seek to minimize the risk-exposure of the state when securing revenue bonds or loan programs. Creative mechanisms such as secondary markets can provide security without putting tax revenues at risk.

6. The market for industrial revenue bonds is limited and federal controls may restrict their use. States should prepare to offer taxable bonds to channel capital to small firms.

This paper analyzed the effectiveness of state-sponsored incentives to development. Direct-loan programs, industrial revenue bonds, guarantees, mortgage insurance, umbrella revenue bonds and taxable revenue bonds have all been reviewed as a means for increasing the access of small businesses to capital.
Development planners and policy makers need to determine the most efficient methods for directing capital to those small, rapidly growing firms that are the largest source of new jobs and tax revenues to the state. Capital plays a critical organizing role in determining which projects go forward and which projects do not. States can play important roles in equalizing access to capital. Capital itself cannot perform economic miracles in the development process, but well-conceived programs that direct capital where private markets fail to function can have beneficial effects for small and large businesses alike.
NOTES


10 Interview, Peter Harris, Office of U.S. Senator Metzenbaum, Nov. 3, 1980.


14 Interview, Peter Harris, Office of U.S. Senator Metzenbaum, Nov. 3, 1980.
ADDENDUM

Additional Notes to "Providing Capital to Small Businesses: An Evaluation of State Development Incentives."

p. iii. "... capital availability—not cost—is the critical issue." from:


p. 3 "the physical relocation of large plants does not play an important part in regional economic growth." from:


p. 33 Additions to footnote 14:

