

TARGETED CAPITAL SUBSIDIES AND ECONOMIC WELFARE

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I. Introduction

Both federal and state government agencies are actively involved in programs designed to reduce the cost of capital to specific targeted groups of firms or individuals. At the federal level alone, there has been a rapid rise in the use of credit subsidies to achieve various public policy goals. According to a recent report of the General Accounting Office (GAO 1983), new direct loan obligations of the U.S. government increased from \$10.5 billion in fiscal year 1971 to \$57.2 billion in 1981, while new commitments for guaranteed or insured loans rose from \$38.5 billion to \$76.5 billion. By 1982 some 424 credit programs and activities were authorized by law, including both on-budget and off-budget programs of 27 departments and independent agencies. The level of direct loans outstanding in 1981 totaled \$185 billion, having increased 250 percent in 10 years. To put these GAO figures in the context of aggregate credit flows, federal loans and loan guarantees in 1981 accounted for 33 percent of the total funds raised in credit markets by nonfinancial sectors for the year (Council of Economic Advisers 1983, pp. 236-37).

One group often singled out for subsidies are business enterprises with characteristics targeted under criteria established by policy-makers. Although they comprise a relatively small component of the overall government credit activities, business capital subsidies are particularly interesting to economists both because they represent attempts to change the allocation of investment in the economy as a whole, and because they seek to weaken the market test of firm survival. These programs take a variety of forms: a government agency

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may provide direct loans, or it may make simple cash payments to private lenders to cover a portion of the interest cost of the loan, or it may only assume liability to repay the loan if the borrower defaults. Regardless of how the government participates in a loan transaction, the effect is to reduce the interest rate below what the firm would otherwise pay.

In section II we identify some of the rationales for providing business capital subsidies and argue that support for these programs rests on popular beliefs that public interest benefits are created by facilitating access to capital for particular firms. Yet, for the most part, the exact nature of these public interest objectives and the effectiveness of subsidy programs in achieving them remains obscured from public debate. Section III points out some generic problems in implementing capital subsidies, which serve to show that these programs do not always bear a reasonable relation to the objectives sought. We discuss in section IV a further set of unique problems raised by conflicting interests among levels of government.

II. Public Interest Rationales for Capital Subsidies

What specific objectives are business capital subsidies intended to accomplish? How do legislatures and executive agencies justify the use of these costly policy instruments? Public hearings are often vague on these questions, as politicians seem unwilling or unable to articulate precisely what economic conditions necessitate government action in the credit markets. Furthermore, special interest legislation may well lie at the root of why government engages in such programs. Indeed, the intended recipients of a particular program may be a different interest group from what is declared in rhetorical political discussions. Recent literature on the political economy of regulation provides ample illustrations of programs in which transfers wound up in the "wrong place."¹

¹Several examples can be used to illustrate the notion that transfers end up in the wrong place. While the Robinson-Patman Act is one area of antitrust in which the government is seen as promoting or protecting small business, there are other hidden beneficiaries. Recent studies (see, for example, Ross 1984) show that major benefits under the act were reaped by other industry groups, such as the large food wholesalers and the food brokers. Similarly, the FCC's attempt to promote UHF broadcasting through implicit subsidies and regulatory protections is ostensibly an attempt to promote local enterprise in TV, and yet the major benefits of regulation accrued to a different segment of the industry, especially the VHF network-affiliated stations in large cities and certain other factors of production (Crandall 1978; Fournier 1985). Airline deregulation has shown that a sizable portion of the potential rents created under CAB rule were dissipated through nonprice competition among carriers, with the remainder extracted by airline pilots and other factors of production rather than by the carriers themselves (see, for example, Bailey et al. 1985, pp. 91-110; Moore 1982).

TARGETED CAPITAL SUBSIDIES

While recognizing at the outset that a discussion of public sector decision making of the sort just described is important in a broader perspective, our analysis examines the "market failure" aspects of credit activities and addresses the problem of when, if ever, there might be defensible public interest objectives at which these government activities are directed.

Business capital subsidies at the state and local level are most frequently justified in terms of their potential for generating jobs in a specific area; their net impact is of little relevance to program assessment. At the federal level, job creation policies are in the *domain of macroeconomic policy*, and capital subsidies are justified by their ability to remedy four substantive problems in the allocation of capital resources. First, policies may be employed as part of the overall strategy to alter the distribution of wealth or income in desirable ways. Second, subsidies for capital may be intended to compensate for capital market imperfections that foreclose access or discriminate against identifiable groups of business enterprises. Third, the policy goal of promoting competition might be furthered with capital subsidies designed to offset barriers to entry. Finally, the desirability of these policies might be attributed to perceived externalities in private sector investment. For instance, capital subsidies might be seen as a direct incentive for businesses to expand politically favored activities, such as pollution control or energy conservation. Each of these rationales will be discussed in turn.

Enhancing Overall Income Distribution

Transfers to enterprises may be designed to promote changes in the distribution of wealth or income in society. It is certainly true that some individual business owners can be made wealthier by programs subsidizing their cost of capital. And, while benefits to specific individuals need not translate into general benefits to targeted groups of disadvantaged persons, programs of this nature are most often seen as part of the overall plan to relieve the economic distress of lower income groups. The expectation might be that the subsidies will stimulate the hiring and training of disadvantaged groups. In addition, subsidizing minority business might have a broader "demonstration" effect beneficial to the perceived economic opportunity of minorities, especially when programs facilitate entry into industry by minorities.

Correcting Capital Market Imperfections

A second justification for capital subsidies rests on the premise that certain worthy investors are denied equal access to capital.

Capital market imperfections that foreclose access to investment capital or otherwise discriminate against particular enterprise groups, especially small firms, might be corrected if these groups can be successfully targeted. The severity of capital market imperfections is highly controversial. There is some empirical evidence for imperfections in that the risk adjusted rate of return is higher for small firms than for large firms (Banz 1981; Reinganum 1981). Whatever merit exists in the argument, there are strong indications that public policy perceives the problem as real. For example, Congress, in creating the Small Business Administration (SBA), instructed it to "study the ability of financial markets and institutions to meet small business credit needs," and "to determine financial resource availability and to recommend methods for delivery of financial assistance to minority enterprises, including methods for securing equity capital."² This mission contemplates an active response—a policy of capital subsidies—only if capital markets are judged deficient.

Promoting Competition in the U.S. Economy

Another objective of these programs is to make the economy more competitive. Where past discrimination against minorities, women, or small enterprises has erected barriers to entry into a broad range of industries, capital subsidies may be viewed as attempts to remove those barriers. The objective is thus to raise the proportion of all industry that is effectively competitive. If discrimination had taken the form of credit rationing or price discrimination on loans to the disadvantaged groups, capital subsidies attack the barrier to entry at its source. But, more generally, if past discrimination has ubiquitous effects on technical, organizational, or entrepreneurial abilities of minority enterprises, capital subsidies are akin to "infant industry" protections in international trade. Temporary subsidization provides these firms an opportunity for learning by doing, one that would not be available from private venture capitalists or other channels of finance. The arguments for subsidization have to be carefully qualified, since the inherent tendency of infant industry protections to perpetuate inefficiency is well documented (for example, Yeager and Tuerck 1966, pp. 217–22; Lindert and Kindleberger 1982, pp. 145–47).

That a prime objective of policy is to promote competition and economic opportunity is readily seen. The SBA, for example, is charged with examining "the contribution which small business can make in improving competition, encouraging economic and social mobility for all citizens . . . expanding employment opportunities . . . [and]

²15 U.S.C. 634.

providing an avenue through which new and interesting products and services can be brought to the marketplace." Further, the essence of SBA's function is to "recommend specific measures for creating an environment in which all businesses will have the opportunity to compete effectively and expand to their full potential."³

Compensating for Positive Externalities

Where the presence of externalities leads to underinvestment by the private sector, relative to what is socially optimal, programs subsidizing capital might be remedial to the extent that they raise the private perceptions of returns to investment. The point is particularly applicable to programs geared to spatial distress, as observed in the aging and decay of certain urban areas. Here, it might be argued that profit streams generated by private redevelopment fail to reflect a substantial portion of the social benefits. Alternatively, if investment depends on well-functioning capital markets, market failures in which investors are unable to diversify risk or otherwise arrange optimal risk sharing may pose a stumbling block to correcting spatial disequilibria. Capital subsidies, in one sense, act to negate imperfections created by other government policies, such as bankruptcy laws.

The government, with its power to spread risks widely and without much consent, is in a unique position approaching "risk neutrality." Given the relatively low risk premium attached to government securities, levels of investment might be stimulated where government shoulders a large portion of the risk (Arrow and Lind 1970).⁴ It does not follow that having more investment is necessarily efficient, since the low cost of capital facing the government is only a "pecuniary" economy. But if the reallocation of risk generates real economies, as when it corrects a positive externality, there is potential for efficiency gains.⁵ The same argument applies to emergency or disaster relief

³15 U.S.C. 634(b)(1); 15 U.S.C. 643(b)(9).

⁴This argument can only be applied where the government's cost of pooling is less than that of private financial intermediaries and other corporations. AAA bonds typically pay interest rates very close to those paid by state governments, which would seem to rule out all but the federal government. Likewise, the movement toward conglomerate enterprises is partly a response to risk-spreading and pooling advantages of mega-product enterprises. The federal role in risk pooling would therefore seem to be most relevant in the context of smaller firms.

⁵The default record of the SBA may indicate that the private risk assessments were correct. As an empirical proposition, perhaps one could test whether government credit programs generate real economies by comparing the default rates between SBA loans with those generally observed for a suitable comparison group in the private sector. A one-tailed test would reject this hypothesis where a higher proportion of defaults on federal loans is found, despite the subsidized interest rate. Investment projects that cannot even make it under those constraints are arguably extra-marginal. A more complete analysis would have to assess the dynamic effects on innovation as well.

loans: government intervention acts as a buffer to sudden shocks in the capital markets when natural disasters produce unanticipated demand for net investment by large and diverse groups of enterprises. A final illustration is the use of capital subsidies to create economic incentives for investment in politically favored activities, such as energy conservation or pollution control. Even if a strong political consensus favors energy conservation, the private level of investment may fail to reflect perceived external benefits.

III. Welfare Effects of Federal Capital Subsidies

We have identified a wide range of arguments used to justify business capital subsidies as being in the public interest. Even if one tentatively accepts these objectives at face value, it remains for us to consider what economic effects are associated with these policy instruments. Are the objectives sought in these programs likely to be achieved? Does it matter if the programs generate windfalls to unintended beneficiaries? What hidden costs are being borne by society? Finally, does our analysis suggest anything to policymakers about pitfalls to be avoided in the design of these programs? We discuss these questions in the context of a set of generic problems associated with capital subsidies. These problems include induced rent-seeking responses; the inability of policy to confine benefits to targeted groups; the effects of programs on the allocation of investment capital; and principal-agency problems associated with the administrative process.

Rent-Seeking Responses to Subsidy Programs

A major problem is created when subsidy programs give rise to rent seeking. James Buchanan (1980, p. 4) defines this phenomenon as "behavior in institutional settings where individual efforts to maximize value generate social waste rather than social surplus." Some rent seeking would be naturally generated by the very nature of the allocation process determining which firms receive subsidies. Expenditures in the form of management time, consulting services, and legal representation frequently become necessary inputs to administrative decision making. Capital subsidy programs that provide benefits to only a portion of the eligible enterprises or programs where there is a rationing problem can generate rivalrous legal contests that dissipate some of the program's benefits. Each risk-neutral enterprise will incur the expense of rent-seeking activities if it expects a sufficiently favorable increase in the probability of being awarded the subsidy, that is, if the activities raise the present value of expected benefits by more than their cost. Since the resulting contest is

characteristically a negative-sum game, rent-seeking expenditures could easily equal or exceed the value of the subsidy (see, for example, Tullock 1980; Davis and Meyer 1969).

How much waste is generated in the form of rent-seeking activities depends on characteristics of the firms participating and the programs themselves. Some circumstances favor rent seeking more than others. For example, if a program targets small firms that are short of capital one might expect that these enterprises have a comparative disadvantage in rent-seeking activities, deriving from their high marginal cost (relative to large firms) of diverting managerial resources and working capital away from their primary line of business.⁶ In contrast, capital subsidies rationed among relatively prosperous firms with adequate capital are likely to generate considerably more competition in light of their opportunity costs. In brief, if there are economies of scale in carrying out acts of persuasion before administrative bodies, large firms will engage in rivalries more often than small firms. The assumption that large profitable firms have advantages over small firms seems plausible,⁷ but the concept that some circumstances favor rent seeking more than others extends to any firm characteristic yielding comparative advantage in lobbying or political activity.

An important concern is with a particular form of rent seeking, which might be called defensive or preemptive rent seeking. Defensive rent seeking occurs when a firm tries to prevent an actual or potential competitor from receiving a subsidy to avoid being put at a competitive disadvantage or simply to raise the cost of entry. Existing firms may correctly perceive that new competition will potentially damage their profitability, and thus they will expend resources to avert the capital subsidy in order to protect their market share or profits. Even if the market is competitive and all firms face identical costs, defensive rent seeking may be the only alternative to exiting from the market. In such a case, the subsidy program would merely

⁶Of course, a well-functioning market system would provide intermediaries to represent small firms before the administrative agency in exchange for a portion of the expected benefit, but whether such services do become available is uncertain and subject to substantial transaction costs. To illustrate, the proliferation of trade associations in Washington can be seen as a means for small firms to participate in rent-seeking activities that would be impossible otherwise.

⁷It is well known that large firms have superior access to law in civil litigation, and the same is likely to apply to rent seeking. The ability to obtain and retain effective legal representation is greater among large firms. Rent seeking is an activity subject to multiplant economies of scale, since it involves functions and expenditures that do not vary directly with the level of the firm's output. If there are lump-sum components that the firm must treat as sunk costs, large firms will be more likely than small ones to view the activity as attractive.

cause a replacement of one firm by another. One might complain that the program only serves to build up the social costs of entry and exit by causing unnecessary turnover among firms. This problem is especially visible under programs involving retail services in local markets, such as hotel and restaurant franchises vying for industrial revenue bonds. These expenditures and related social costs should be subtracted from the social benefits attributed to the subsidy programs.

The Targeting Problem

A recent report on business capital subsidy programs found that 81 percent of over 300 federal programs surveyed were targeted to specific types of firms (Levinson et al. 1982). These programs, therefore, deliberately attempt to restrict the benefits to particular enterprise groups. Among these are "industry" groups, such as firms in fishing, mining, energy, and transportation, "small businesses" as might be defined by various size standards, and "spatially-targeted" firms located in areas of economic distress.

The feasibility of targeting is problematic. What will determine whether the individual firm being awarded special treatment is going to be made better off? Can the government successfully target its intended recipient group? We have already hinted at one reason for questioning the premise that the dollar passes directly from origin to target, namely, the possibility of rent seeking. Now we develop the argument further.

At the outset, the question of targeting is related to the standard public finance issue of the incidence of an excise tax or subsidy (see, for example, Shoup 1974). Merely providing firms with a per-unit cash subsidy does not ensure that they will profit from it. In competitive industries price adjustments pass on part of the benefit of a subsidy to consumers. In particular, the benefits are divided between consumers and producers in proportion to the ratio of market supply elasticity to market demand elasticity, measured at the initial equilibrium. Thus, if supply is highly elastic, relative to demand, attempts to make minority firms better off may largely subsidize a totally different socioeconomic group of consumers.

Other sources of "leakages" are the factors of production in the targeted firm. Generally, whatever producer surplus is retained by the firm will be passed on to specialized factors of production. Especially in small businesses where employees acquire a high component of firm-specific human capital, and where compensation is determined through bilateral bargaining, the employees may regard cap-

ital subsidies as “appropriable quasi-rents” (Klein, Crawford, and Alchian 1979).

The problems inherent in targeting, however, go beyond that of incidence. The most critical obstacle is the difficulty in choosing an appropriate definition of the target group. Ideally, policymakers have in mind a distinction between “deserving” and “undeserving” firms, but this distinction is no easier in practice than separating the “deserving” poor from the “undeserving” poor in welfare programs. Even if one believes, for example, that small firms are subject to credit rationing or discrimination, the choice of an appropriate size threshold is likely to produce unintended beneficiaries. Apart from the where-you-draw-the-line problem, there is the difficulty of filtering out firms meeting size standards but undeserving of subsidy. Credit programs, recognizing the existence of undeserving applicants, may compound the problem by adopting behavioral restrictions, such as requiring evidence that the firm’s loan application has been turned down by local banks.

Any attempt to define a suitable recipient pool will be subject to two types of errors. In the parlance of statisticians, “type one” errors occur when the agency fails to provide assistance to a firm that is truly deserving, given the *spirit and intent* of the program. “Type two” errors occur when the agency has wrongly subsidized a firm that does not deserve such assistance. Whether agencies will adopt decision rules that weigh correctly the costs and benefits of decisions subject to these errors is difficult to gauge without reference to the bureaucrats’ incentives and constraints. The costs associated with the second type of error involve hidden and dispersed economic inefficiencies that are unlikely to be traced back to the bureaucrat. Thus, we might expect biases to be in the direction of programs that reach beyond the pool of deserving or disadvantaged enterprises.

A final factor to consider about targeting particular firms is that any attempt will be met by strategic, opportunistic responses by firms attempting to avail themselves of the benefits. Subsidy programs targeted to sex, racial, or ethnic minorities with a specified ownership threshold, say 51 percent, may lead to deliberate forms of ownership restructuring in limited partnerships and corporations, as firms seek to qualify. Similarly, programs earmarked for small businesses based on thresholds of size may lead to production at below minimum efficient scale to the extent that the private profits from operating as a *small inefficient* (but subsidized!) firm are greater than the profits the firm could achieve at minimum efficient scale without subsidy. Ronald Coase’s (1937) theory of the firm suggests that the organization of production within a firm reflects a balancing of the net profits,

at the margin, of in-house operation with the alternative of interfirm market transactions. For instance, extensive provision of small business subsidies may bias the retail distribution system in the direction of franchising, and away from vertically integrated provision of goods and services, even in the presence of economic efficiencies that might dictate the opposite organization.

In sum, there are substantial reasons to doubt the ability of federal agencies administering capital subsidy programs to target successfully any particular group of firms that might be singled out under the public interest objectives mentioned earlier. The distribution of benefits bears little resemblance to our intuitive notions of deserving or disadvantaged members of society. And the associated allocative problems are potentially large, especially since they appear in places unlikely to alert the attention of administrators.

Misallocation in Capital Markets and Related Effects

The function of capital markets in allocating investment funds is well understood (see, for example, Stiglitz 1982). Among other things, capital markets assimilate information regarding credit risks and determine risk premia attached to competing demands for investment funds. When government intervenes to alter this allocation mechanism, it is presumed that some market imperfection is present. The monopoly power of banks was formerly considered a significant imperfection in capital markets, especially for small firms that must rely on bank loans as their primary source of finance. But such arguments have been severely eroded by recent developments in the deregulation of financial institutions.

Alternatively, capital market imperfections in the form of denial of credit might be caused by institutional obstacles to market-clearing loan contracts, as with usury laws or the inability of lenders to enforce high interest rate contracts in courts. Also, it might be argued that the apparent market efficiency is conditioned on a given information set, while nothing ensures that public goods problems associated with the production of information will be overcome by the profit motive of investment analysts.

Are capital markets then truly efficient? What some observers regard as a market failure others would see as evidence of a smooth functioning market. For example, when certain demanders of capital are systematically discriminated against, it could be claimed that the market is simply internalizing transaction costs and risk assessment into its allocation decisions in an optimal fashion. After all, it is efficient for private suppliers of capital to deny funds to an enterprise that appears too risky because of its location, size, or demographic

characteristics of its owners. The case for capital subsidies rests on a belief that, even if the market were operating efficiently from this private perspective, the operation of the capital market may be failing if society could realize a higher rate of return with some sort of intervention that allocated capital differently.

The danger is that in the process of allocating capital "differently," government programs sacrifice some market information essential to risk assessment. There are at least two reasons for expecting this result. First, government agencies have less incentive for evaluating credit-worthiness in rationing available funds, because they do not shoulder the consequences of bad judgments, and because credit-worthiness is antithetical to the programs being administered. Indeed, there is usually an explicit requirement that the applicant establish its inability to obtain private financing. Second, it is not obvious that business capital subsidy programs will substantially increase the total savings or investment in the economy. Without increasing the supply of funds, there must be a change in the mix of investments, as some projects are crowded out in lieu of others that are subsidized. Therefore, these programs carry the opportunity cost of diverting funds from marginal investment projects.

The Agency Problem

The problem of policing an agent to enforce actions in the principal's interest is well known. Although this problem is not trivial in any private or government activity, it is acute in the capital subsidy programs that attempt to raise the social rate of return on investment. We argue that agency problems raise serious doubts about the potential effectiveness of public sector attempts to improve the allocation of investment.

The contrast between private market allocation of investment and its governmental counterpart is striking. Agents acting on behalf of private financial institutions are subject to competitive forces holding them accountable for the consequences of portfolio management decisions. The dramatic improvements in recent years in the competitiveness of the markets for investment funds limit the exercise of discretion by private agents. With the threat of takeover or market displacement, the private manager has an incentive to invest efficiently in information relevant for assessing the risk-return profile of potential borrowers. Moreover, inefficient (or unlucky) managers can be weeded out because their performance evaluation is relatively uncomplicated. The government agent, in contrast, is largely insulated from these forces and faces an entirely different set of incentives and constraints.

Consider the example of the small business venture capital programs sponsored by state governments. As of 1981, 10 states had established quasi-independent or private corporations with a venture capital orientation, the most prominent being the Connecticut Product Development Corporation and the Massachusetts Technology Development Corporation. In total, state venture capital programs allocated about \$31.2 million in 1981 (NASDA et al. 1983).

The usual goal of these state programs is net job creation, which we understand to mean the creation of more jobs than would have been generated in the absence of the program. A state agency administering such a program would no doubt be evaluated in terms of its apparent success, and failed investments detract from such an assessment. Hence, agency administrators will have an incentive to support the safest possible investments, since risk taking raises the probability that some projects will fail and thus threatens the job security of agency staff. Depending on the budget and other constraints imposed externally, the staff might even adopt the strategy of supporting firms that would have been funded by the private sector anyway. If investment risk taking was truly in the intended spirit of the program, such agent decision rules will reduce the program's effectiveness. Second, the goal of creating jobs biases the agency in favor of labor-intensive ventures, unless they receive credit for multiplier effects.

These problems are not easily solved by privatizing the activity or by setting up a quasi-public corporation dedicated to venture capital investments that create jobs. In either of these cases, the evaluation of the agent or manager is likely to rest on imperfect criteria, such as the number of jobs created by investments in the corporation rather than correct but elusive measures of *net* job creation. Naturally, the agents will be motivated to enhance their own performance evaluation and will therefore attempt to avoid the failures that would inevitably accompany a portfolio that is not explicitly risk averse. Hence, the process of accountability will create an agency problem irrespective of the way a supposed risk-neutral investment fund is organized.

To summarize, business capital subsidies are subject to several types of problems that need to be thoughtfully considered when assessing their potential use as policy instruments. We conclude the following:

1. In certain circumstances rent seeking will be a substantial source of socially wasteful activity induced by these programs.
2. Successful targeting of particular groups of firms for receipt of benefits is difficult to achieve.
3. Capital subsidies may contribute to inefficiency in the allocation of investment funds.

4. It is unreasonable to assume that the incentives of government agents and administrators will be adequate to restrict their pursuit of objectives in conflict with the goals of the programs.

IV. State and Local Capital Subsidy Programs

Parochial state and local interests are served equally well by capital subsidy programs that pirate jobs from other areas or create net new employment.⁸ Thus, state and local capital subsidies can be successful without contributing to the solution of any of the alleged resource allocation problems that motivate federal programs. In this section we explore the possibility that state programs could be substituted for federal efforts when capital subsidies are thought to further some national purpose.

State capital subsidy programs are not immune from the problems that plague the effective implementation of federal efforts. For example, targeting is a substantial problem because capital subsidy programs administered by state and local governments produce geographically dispersed benefits. This inevitable dispersion of benefits is a straightforward consequence of the free flow of interstate commerce. Suppose, for example, a state or local government subsidizes some capital investment projects for redevelopment of a distressed area. Although the funding jurisdiction pays 100 percent of the costs, the employment and economic activity generated by the expenditures would be dispersed over many states due to the interdependence of domestic markets.

The efficacy of these incentives from the state's fiscal perspective is further compromised by the federalist nature of the U.S. tax system. It can be shown that the federal government benefits through higher tax revenues when state and local governments subsidize capital to firms (Rasmussen et al. 1984).⁹ In particular, when state capital

⁸State and local governments subsidize the cost of capital by a myriad of programs that feature direct loans, interest subsidies, loan guarantees, quasi-independent and private capital corporations, and industrial revenue bonds. The composition of these incentives was revealed in an exhaustive survey of state and local economic development incentives conducted by the Urban Institute and the National Association of State Development Agencies (NASDA et al. 1983). The survey shows that in 1981 these governments influenced the allocation of about \$19.8 billion through such programs, or approximately 5 percent of gross private domestic investment for that year.

⁹There are certain "general equilibrium" limitations to this analysis. The analysis works if states increase the number of projects, or the value of net investment, in the aggregate; that is, when the states are able to select projects yielding higher rates of return than the free market, or when government-subsidized projects are of the high risk, high return variety that are likely to be denied access to private funding. Only if these types of profit-creation results occur, do the aggregate profits and tax yield of the treasury

subsidies increase corporate profits, this translates into an increased federal corporate or income tax liability. Through this avenue, state-funded capital subsidy programs implicitly subsidize the federal government.¹⁰

An obvious solution to the dispersed benefits problem is to have the federal government fund a program administered by state or local governments. This solution is not without its pitfalls. Industrial revenue bonds (IRBs) are issued by state and local agencies and funded by the federal government via a tax expenditure because the subsidy arises from preferential tax treatment of interest earned on the bonds. Considering that the state allocates the bonds while the federal government pays the cost, IRBs are highly cost effective from the state's perspective. Except for recent attempts to control the volume of IRBs offered, this program has long been operated in a way that encouraged unconstrained use, since state and local jurisdictions were given a "capital subsidy credit card" that never had to be paid off.

This solution to the dispersed benefits problem—to give the localities control over the distribution of federally funded benefits—simply created an inefficient program with a substantial free-rider problem. According to Rasmussen et al. (1984), the IRBs are the least efficient of all capital subsidy programs from the combined perspective of all levels of government. It is not surprising that the IRB program would come to dominate all other programs. The 1981 total volume of state and local capital subsidies was \$19.8 billion. Of this total, federally funded IRBs accounted for \$19.4 billion (NASDA et al. 1983). Hence, state and local governments committed only modest amounts of their own resources to capital subsidies, amounting to about 2 percent of the total expenditures.

To the extent that some existing capital subsidy programs merit retention, our analysis suggests that the federal government must be responsible for their funding. States are not well suited to finance programs associated with dispersed benefits. Yet it is possible that states have a comparative advantage in the administration of the programs. Perhaps a desirable arrangement would be to retain the financial responsibilities for these programs in the federal government, but to utilize state administration, provided that the adminis-

become enhanced. If savings are fixed, the reallocation of investment projects causes a reduction in total profit taxes since the subsidy eliminates investments yielding relatively higher returns.

¹⁰State interest subsidy programs are not cost effective in that it costs the state as much as \$182 to deliver \$100 benefit to a firm (Rasmussen et al. 1984). Although state loan guarantee programs are more cost effective in this sense, the result is highly sensitive to the assumed default rate.

trative units are given specific budget constraints instead of unconstrained tax preferences.

V. Conclusion

We have enumerated several public interest objectives presented to justify the use of targeted business capital subsidies. The list is noteworthy in that it includes goals, such as income redistribution and antidiscrimination, that permeate public policy in other areas, including welfare, health care, and education. Typically, capital subsidies are cloaked in multiple public purposes: a program for small businesses may be intended to provide economic opportunity to minorities, promote competition, and create employment in a distressed area. In some cases, the goals reflect premises about the economy ("capital markets are imperfect"; "small firms foster a more rapid rate of innovation"). These premises can be tested in principle with scientific methods, and are thus contingent on current knowledge. In other cases, the goals represent normative values ("the steering of investment toward politically favored purposes is desirable").

While no purpose is served in trying to refute the values reflected in the goals we identify for these programs, there is a reasonable basis for expecting that implementation problems will undermine policy effectiveness. Even if public interest goals are widely shared and truly represent the motivation for having business capital subsidies, are they the best way to achieve these goals? Quantitative program evaluations (or cost-benefit analysis) might help to reveal whether these programs achieve acceptable performance.¹¹

A correct evaluation of these programs requires attention to their hidden and indirect ramifications. We have suggested some generic problems that arise from the rational responses of individuals, and their collective expression in markets, to the incentives created by these programs. The importance of these considerations will vary with the context. Contrast the problems associated with programs

¹¹Policy formulation regarding these programs is hindered by the lack of information being generated within the government about these programs, their benefits and costs, reach and distribution. A congressional staff report laments, "we know little or nothing about the benefits from these subsidy programs and who gets them. Our knowledge about what these programs cost the government and what adverse effects they have on the economy is quite limited" (U.S. Congress, Joint Economic Committee 1974). The lack of information with which to assess the impact of credit programs on the allocation of investment capital is particularly troublesome. Moreover, the same report suggests that cost may not be Congress's primary consideration when enacting or extending programs of this kind, or for executive agencies managing them.

aiding small businesses with those in programs for emergency relief. When the targeted firms are small, there are likely to be few rent-seeking activities; but our ability to confine the benefits to appropriate recipient groups is severely limited. Especially when the participating firms operate in competitive output markets, the benefits will be largely captured by consumers or negated by exit of a nonsubsidized firm. The exiting firm may indeed be from the same minority group in the distressed area. These problems are much less evident in capital subsidies for emergency relief, since there is no long-term program that rent seekers can attempt to manipulate nor ambiguous goals that could create a severe agency problem. Looking further at programs aimed at revitalizing urban areas, we find that they inevitably involve participation of large firms operating in highly competitive markets, posing a likely threat to some existing firms. Hence, we encounter the difficulty of targeting, rent seeking, defensive rent seeking, and a possible misallocation of capital.

Whether targeted business capital subsidies are an effective means of redistributing income is a function of two opposing factors. First, compared to equivalent cash transfers, subsidies produce additional allocative inefficiencies. When the subsidies work by changing the relative prices of the factors used by the firm in production, participation in these programs results in inefficient input selection. In addition, subsidies are likely to change the relative prices of subsidized and nonsubsidized final goods, causing further allocative distortions. There may also be social costs in the form of rent seeking, excessive firm turnover, or principle-agent distortions. Second, the normative desirability of redistribution, as viewed by some members of society, is enhanced because the subsidy requires the recipient to engage in some productive enterprise. Yet, as we have argued, our ability to redistribute income by these programs might be undermined when the benefits are extracted largely by economic agents other than the owners of the subsidized firms. If income or economic opportunity is the goal, it is perhaps more cost effective simply to offer some deserving recipient a fellowship to the Harvard Business School.

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CAPITAL SUBSIDIES, CAPITAL ALLOCATION, AND ECONOMIC WELFARE

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The paper by Gary Fournier and David Rasmussen (1986) points to the importance of analyzing business capital subsidies, whether such subsidies are targeted or not. Two questions come to mind: (1) Why are business capital subsidies evidently good politics? and (2) Are business capital subsidies good economics? Fournier and Rasmussen do not deal adequately, if at all, with the former question. With respect to the latter, the aspect that interests me most is the effect of business capital subsidies on the allocation of investment.

In section II of the paper, Fournier and Rasmussen identify some of the rationales for providing business capital subsidies: redistribution of wealth or income, compensation for capital market imperfections, promotion of competition, and internalization of externalities. Let me comment briefly on these rationales. If the objective is redistributing wealth or income, the market mechanism is not a particularly efficient means of achieving the objective. We know this lesson by rote and from experience. With respect to market imperfections, we also know from experience that government is not particularly adept at perfecting anything. In some cases, however, government has been successful at scaling down its own contribution to market imperfections. Nevertheless, government intervention to deal with market failure does not necessarily mean governmental success. With respect to promoting competition, the U.S. economy is not likely to be moved measurably toward the competitive pole by indirect means such as business capital subsidies. Finally, externalities must not be confounded with public goods (bads). Internalizing

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externalities is one thing, but satisfying first-order optimality conditions for efficient provision of social benefits that appear simultaneously and irreducibly in two or more utility or production functions is another.

All of these foregoing rationales deal with *targeted* business capital subsidies. We know that, if government were a boy scout, it would not earn its archery merit badge. Let me turn aside these rationales, however, and focus instead on still another rationale that underlies a case made by certain proponents of business capital subsidies. This rationale concerns tax implications for capital allocation. Fournier and Rasmussen are silent on this rationale, even though it deals with the "allocation of investment in the economy as a whole," which they cite early as a prime interest of economists. This rationale is a kind of second-best argument recognizing that our tax laws are rigged in favor of owner-occupied housing! After all, homeowners pay no tax on imputed rent and receive preferential capital gains treatment.

Net (of depreciation) user costs of capital have been estimated for several types of nonfinancial capital: producer durables and structures of both corporations and unincorporated businesses, rental housing, and owner-occupied housing. Because of differences in taxation and financing, net user costs of capital are lower for housing, particularly owner-occupied housing, than for nonresidential capital. Hendershott and Shilling (1982) estimate the net (of depreciation) user costs of capital immediately before the Economic Recovery Tax Act (ERTA) of 1981 for corporate capital, rental housing, and owner-occupied housing. Ignoring risk considerations and possible externalities, net user costs should be equal across all types of capital if it is to be allocated efficiently in the economy. Prior to ERTA, the net user cost of capital was two percentage points above that of rental housing and five percentage points above the weighted average net cost of owner-occupied housing. After ERTA, the net user costs of corporate capital and rental housing are *equal* and that of owner-occupied housing is only three percentage points less. When the net user cost of owner-occupied housing is examined by income class, the net user cost is significantly (four to five percentage points) below that of both rental housing and corporate capital for upper-middle (\$25–50 thousand) and high-income (more than \$50 thousand) classes.

The underlying meaning of these estimates is that there is or has been overinvestment in owner-occupied housing and underinvestment in corporate or industrial capital. In other words, because of tax laws, we are or were overhoused and underindustrialized. Hendershott and Shilling (1982, p. 242) point out that the "obvious economic, although not political, solution to this misallocation problem would

be to tax owner-occupied housing more heavily (for example, tax imputed rents), thereby raising its user cost relative to that of industrial capital." The same effect on relative net user costs could be achieved by taxing industrial capital less heavily. A way of putting this point is that, instead of removing subsidies to owner-occupied housing, subsidies would be extended to business capital. ERTA was a step in this direction.

A property of unfettered, freely functioning capital markets is that, at the margin, all capital is equally productive. In effect, Hendershott and Shilling developed a case for subsidies to business capital based on closing the gap between net user costs. Notice should be taken, however, that they do not make a case for targeted business capital subsidies. Much is known of the loss from leaky buckets used to tote transfers from one group to another group targeted for subsidy. The bucket is particularly leaky when the market mechanism is used. In addition, much is known about the utilities of bureaucrats who act to maximize their own interests.

In a sense, the policy implications and other conclusions of the paper are disappointing. Perhaps the disappointment stems from a misleading title. From the title, one expects a careful analysis of the welfare implications of targeted business capital subsidies that is never forthcoming. What one gets is a limited enumeration of rationales and a truncated evaluation of ramifications. Yet, their paper succeeds in bringing attention to the likelihood that programs of business capital subsidies will not hit the target given by any one of several rationales commonly cited in cases made for such programs. There is much value in taking notice of points raised and scored by Fournier and Rasmussen, but one wishes that they had investigated the basis and underlying question of whether there are conditions or circumstances under which business capital subsidies are good economics and, if so, whether there are conditions or circumstances under which targeted business capital subsidies are reasonable means of actualizing such good economics. In any event, the allocation of investment in the economy as a whole is central to a true analysis of economic welfare implications of business capital subsidies. Business capital subsidies, capital allocation, and economic welfare are linked, and analysis of these linked elements goes beyond rationales and ramifications.

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