When Government Intervenes to Assist Small Businesses

by Michael Stutzer

The most recent economic census (1987) showed that in Minnesota there were over 12,000 firms with paid employees headed by women (17 percent of the total) and 224 black-owned firms (0.5 percent of the total). Most of these firms were very small. Nationwide, the comparable figures are 15.6 percent headed by women and 1.1 percent headed by African Americans. These low numbers raise a number of questions for government and private foundation officials responsible for economic development policies. Are these numbers partly the result of the failure of banks and other private lenders to correctly evaluate proposals from minority borrowers? If so, will current anti-discrimination regulations help, or are different regulations needed? How desirable are existing nonprofit and government agency loan programs that aid small businesses?

Types of Intervention

Lack of definitive answers to these questions has not prevented policymakers in Minnesota and other states from intervening to help small businesses finance their projects. Perhaps the most widespread programs are those run by the federal Small Business Administration. In Minnesota, the Minnesota Department of Trade and Development administers Opportunities Minnesota, Inc. (OMNI) in conjunction with the Small Business Administration. This small business development corporation makes collateralized loans, most often for construction or for equipment. The state also operates the Small Business Development Loan (SBDL) program, and a number of other loan programs.

Private foundations are active as well, in small business loans and grants. The Northwest Area Foundation has allocated substantial funds targeted to nontraditional groups, especially borrowers from rural areas. And the McKnight Foundation assists with revolving loan funds operated for similar purposes. Nonprofit development corporations can help spur small business, too. Unlike the SBDL and OMNI programs, they often make small amounts of capital available for projects that require less, or for borrowers who are less able to collateralize their loans.

* Firms owned by a husband and wife team were classified as owned by a woman.

An innovative loan program for small businesses allowed Corrine Zola to expand her clothing business to include a new line of active sportswear for large women. The program was supported by the Northwest Area Foundation. The foundation made a grant to the Minneapolis Consortium on Nonprofit Developers. One of the consortium members is Phillips Community Development Corporation. Phillips CDC helped Zola develop business and marketing plans and win a bank loan. One aspect of the loan program was to guarantee loans made by banks to small minority and women business owners. The program was designed to reduce risks for lenders, so that new capital could be available in credit-poor communities.
Loans and grants aren’t the only tools used to assist small businesses. The Community Reinvestment Act requires the federal banking regulators to evaluate lender performance in meeting the credit needs of the communities they operate in. On July 1, 1990, amendments to the act went into effect, requiring public disclosure of the federal rating of each institution’s performance, based on five performance categories. Regulators must consider these ratings in the process of granting applications for merger, acquisition, charter, deposit insurance, and office relocation. The performance categories include evidence of discrimination, geographic distribution of offices, and lending for community development. By this mechanism, government may influence small business finance without incurring significant expenditures of its own.

The Economist’s View

The large number of credit market interventions available has disturbed many economists, who are skeptical about programs to aid small businesses. Their skepticism stems from the Fundamental Theorem of Welfare Economics. This bedrock of modern economics delineates economic conditions that will ensure that allowing lenders to make the most profit in the market, unfettered by government intervention, is socially desirable. One of its most controversial assumptions is that prospective lenders evaluate the loan application as accurately as the applicant. Under this view, business proposals which do not find funding are not inherently bad, they are just not likely to be profitable relative to the other proposals that do receive funding. Proposals that are funded are either less costly and/or they are in higher demand by the buying public and hence are more profitable. From this point of view, credit market interventions are inherently undesirable, because they divert funds away from more productive uses.

Among the prominent adherents to this view were Reagan Administration economists, who essentially adopted the viewpoint of the fundamental theorem in expressing their unfavorable opinions of many federal financing interventions and their rapid growth:

Federal credit programs have two primary effects on credit markets. First, they all provide subsidies transferring wealth to government-favored borrowers from the rest of the public. These subsidies create distortions in the economy by reallocating resources from higher to lower valued uses.*

Furthermore, economists’ skepticism is based on more than just an old theory. During the 1980s, evidence began to accumulate that some popular financing interventions were not really aiding the economy. A number of studies failed to find any increases in employment associated with state and local government issuance of industrial revenue bonds, perhaps the most widespread subsidized loan program. And the bulk of other controlled, statistical studies failed to find any indication that credit market interventions improved state economic performance.

Despite this skepticism, economists have proposed new theories based on reasoning that differs from the Fundamental Theorem of Welfare Economics. The study reported here has developed a theory that predicts market responses to interventions that have been designed to assist small businesses. In particular, it examines how risk reduction methods used by lenders affect minority loan applicants, other applicants, and society at large.

Reducing Risks

When lenders can accurately estimate the likelihood that someone applying for a loan will default, market problems do not occur, no matter how much risk may be involved. The lender may decide to charge an interest rate so high that the project becomes infeasible, but this frees up loan funds for other applicants whose projects are more viable. It is only when the lender cannot estimate the risk involved in a particular loan as accurately as the borrower can that what is known as adverse selection comes into play. And it is adverse selection that creates the rationale for credit market interventions.

Lenders look for methods of reducing their risk when they make a loan, a practice called risk reduction. They look for data from a loan applicant which they can link with the probability of a default. The lender may try to identify the applicant as being a member of a group that the lender believes relatively risky, on average.

Some lenders, for example, might treat all loan proposals with high debt/equity ratios and/or borrowers with low net worth as risky, because these characteristics are associated with higher default rates. But there will always be some applicants among these who won’t be likely to default. They become statistically disadvantaged because of what lenders call their “bad financials.” This, however, is not generally thought of as discrimination. On the other hand, if the lender identifies the applicant with a particular race, sex, age, or geographic location, thought to be relatively risky, and denies a loan or charges unusually high interest rates because of this, they the applicant who is less risky than the group average is considered to be discriminated against. While there are other forms of discrimination one could consider, this is the type of discrimination considered in this paper.

An example of this type of discrimination may help clarify the concept. Suppose a lender assigns a high risk to all loan proposals originating in a poor neighborhood, and sets high interest rates or persistently denies loans there. This use of geographic location to assess risk and determine loan policy is called “redlining.” It discriminates against those with loan proposals that aren’t riskier, despite a higher average tendency of loans in the neighborhood to default.

The statistically disadvantaged and those discriminated against in this way share a common concern. They belong to groups that some lenders view as relatively risky on average, but their individual risk is less than their group average. Yet this is not (or cannot) be factored into their loan terms. While policymakers often focus on discrimination as a reason for credit market intervention, statistically disadvantaged applicants are adversely affected by the same phenomenon.

How Credit Market Interventions Affect the Market

If we assume that lenders use this method of reducing risks, then it becomes interesting to analyze how credit market interventions, intended to aid applicants who are statistically disadvantaged or discriminated against, actually affect these people as well as others. It is useful to consider the effects on individual applicants, who are either high risk or low risk, and are either minority or majority borrowers. Minority is used here to refer to those people discriminated against because of race, sex, age, or geographic location. Each applicant may thus be classified in one of four possible ways (Figure 1).

Figure 1. Classification of Loan Applicants

<table>
<thead>
<tr>
<th>High Risk</th>
<th>Minority</th>
<th>Majority</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Risk</td>
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The analysis here assumes that lenders cannot tell to which row in Figure 1 an individual applicant belongs (high risk or low risk), but can discern to which column an applicant belongs (minority or majority). When lenders base policies on this latter distinction it is called “discrimination.” When lenders have available distinguishing between high risk and low risk applicants, they are dealing with the problem of adverse selection. The effects of discrimination will be considered separately from the effects of adverse selection alone.

The following five points are relevant for policy analysts interested in credit market interventions.

1. When the problem of adverse selection becomes serious enough, lenders use a technique known as risk separation by...
Another way of sharing risks is by developing a mutual credit association. Farmers followed this approach when they developed the Farm Credit Bank of St. Paul, now reincorporated as Agribank FCB.

credit rationing. They restrict the size or availability of loans granted to borrowers at lower interest rates. Economic theory predicts that lenders will use credit rationing when the fraction of high risk applicants is high. Suppose this is so, and that the fraction of high risk borrowers is higher among minority borrowers than among majority borrowers, and that lenders are aware of this. Then, if lenders assess higher risk to all minority borrowers—the type of discrimination described earlier—this actually causes no harm to minority borrowers beyond what they would have experienced anyway, because credit rationing has already restricted the size and availability of loans for low risk/minority borrowers.

2. On the other hand, when the fraction of high risk applicants is low, lenders are more likely to use a technique known as risk pooling. They offer a single interest rate to all based on average loan performance. Everyone who is willing to pay the rate receives a loan, and those who are actually lower than average risks end up subsidizing those who are higher than average risks. When this is the case, if lenders discriminate, that discrimination can harm minorities in two ways.

If the average minority borrower’s risk is not much greater than the average majority borrower’s, so that the lender continues to use risk pooling while also discriminating, all minority borrowers will pay higher interest rates than majority borrowers. But if the relative risks are substantially different, then discrimination will induce credit rationing. The high risk/minority borrowers will pay higher rates, while low risk/minority applicants will have their credit rationed. By denying credit to some of the low risk/minority applicants, loans will be concentrated among high risk/minority borrowers. As a result, the default rate for minority loans will be higher than if discrimination had not occurred.

3. Discrimination results in lenders assessing lower risk to the average majority borrower. As such, majority borrowers are never harmed by it, and may actually benefit. This, of course, does not imply that discrimination is desirable.

4. Some government and foundation loan programs target aid to borrowers who have not been able to obtain loans in the private sector. These programs may not actually be beneficial. Such programs wind up serving relatively low risk borrowers who were rationed out by private lenders. Knowing that the programs will only serve relatively low risk borrowers, high risk borrowers, when they apply for loans with private lenders, have even more incentive to understated the amount of risk a loan to them would entail. This increases the difficulty private lenders face in determining loan risks. As a result, some private loan applications, which otherwise would have been accepted, are not funded. Because of this loan displacement effect, the only way to ensure higher total loan volume (public and private) is for program loans to bear higher interest rates than private sector loans of comparable risk. This means, however, that those low risk borrowers who would have obtained loans anyway will be worse off with the program than without it.

5. This loan displacement effect can be eliminated if loan programs serve more borrowers than only those who cannot obtain private financing. If the programs were subsidizing private lenders, rather than competing with them, the private lenders would make more loans than they otherwise would. A program like this, for example, might guarantee a fraction of private loans, free of any requirements that the borrower had already been rejected by private lenders.

These points may sound far fetched, but unlike reasoning based on the Fundamental Theorem of Welfare Economics, they do predict that some loan programs may benefit both minority businesses and society as a whole. It is also interesting to use these points to examine the value of regulations commonly used to detect and prohibit discrimination.
Implications for Anti-Discrimination Regulation

There are two general approaches to detecting violations of the equal lending opportunity laws: the \textit{practices approach} and the \textit{effects approach}. The \textit{practices approach} investigates the methods and data used by lenders in their loan evaluation process. Under this approach, discrimination is prohibited. The Community Reinvestment Act enforcement process, in which examiners rate the process by which loans are marketed and made, is an example of the practices approach.

The \textit{effects approach}, on the other hand, looks for an unfair distribution of loans and considers this to be prima facie evidence that the loan evaluation process has been discriminatory. Suppose someone notices that a lender rejects more minority loan applications than majority applications, and considers this to be evidence of discrimination. This would be an example of the effects approach because the emphasis is on outcomes, rather than process.

By prohibiting discrimination, the \textit{practices approach} may encourage lenders to adopt other methods of risk reduction. Lenders may instead ration credit to those with bad financials, harming statistically disadvantaged borrowers. And, as we have seen in points 1 and 2 above, discrimination is harmful to minorities when risk pooling would otherwise be used by lenders (point 2), but may not be when risk separation by credit rationing would otherwise be used (point 1).

The \textit{effects approach} must also be used carefully. Suppose that regulators observe a lender rejecting a higher fraction of minority loan applications than majority applications. Economic theory predicts that a fraction of only the relatively low risk applicants are denied loans. Because of this, the fraction of loans denied for any group will be partly determined by how many borrowers in that group are relatively low risk. There are two market conditions in which minority groups may have fewer low risk borrowers, but still experience more frequent loan denials. In one, when lenders would normally pool risks, prohibition of discrimination aids minorities, but harms majority borrowers. In the other, when lenders would ration credit even if they didn't discriminate, prohibiting discrimination will not provide any further help for minorities, and will still harm majority borrowers. As a result, the sole finding that minority applicants are rejected more frequently then majority applicants may not warrant sanctions against the lender. Regulators and legislators should be wary of proposals using an effects approach to detect and prohibit discrimination.

Implications for Minnesota Loan Programs

It helps to interpret these findings in the context of specific Minnesota loan programs that have been in operation for some time. Useful quantitative data on such programs are hard to obtain and such data for minority loan programs could not be found. But the Minnesota Department of Trade and Economic Development was most cooperative in providing data about two well organized and documented programs for small businesses: the Small Business Development Loan (SBDL) program and Opportunities Minnesota, Inc. (OMNI). Tables 1 and 2 present descriptive statistics about the programs by summarizing financial data about the applicants whose loans were approved.

Statistical analysis shows that the approved borrowers under the two programs were quite similar. The only statistically significant difference between the programs is that SBDL loans are larger, averaging over $1.5 million in current dollars. This is because the OMNI program has a smaller maximum loan size. The difference in borrower debt/equity ratios (2.87 vs. 3.23) is only marginally significant in a statistical analysis.

The problems with loan programs that require borrowers to have first been turned down in the private loan market are described earlier (point 4). Are SBDL and OMNI programs of this sort? It is unclear whether or not the programs served only those who could not obtain private credit at any interest rate. In the SBDL program, applicants had to meet three out of five eligibility requirements. Only one of the requirements was to demonstrate that they could not obtain suitable financing from another source, so this finding was not essential to eligibility. As a result, the program administrator roughly estimated that as many as 47 percent of the loans might have been financed in an alternative way. But even if it were possible to lend solely to those who were denied private credit, point 4 argues against doing so.

Point 4 shows that subsidized loan rates benefit the average low risk borrower, but may create a lower total (public + private) volume of loans, which is to the general disadvantage of society at large. Do these state programs subsidize loan rates? The interest rates charged in both programs were relatively low, averaging under 10 percent during a period when low grade corporate bonds yielded more than 1 percent higher. Because firms with access to the long-term corporate bond market were probably better capitalized and more established than those funded by OMNI or SBDL, it is likely that these programs did make loans at rates below those that would have been made in the private sector. To avoid

\begin{table}
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\begin{tabular}{lrrr}
\hline
 & Mean & Standard Deviation & Maximum \\
\hline
Amount of loan & $267,350 & $158,950 & $814,560 \\
Interest rate & 9.75\% & 1.53\% & 13.5\% \\
Equity & $79,669 & $77,204 & $451,010 \\
Total debt & $341,940 & $266,470 & $1,606,300 \\
Net worth & $296,070 & $382,240 & $2,100,800 \\
Debt/equity ratio & 3.23 & 7.16 & 68.8 \\
Sales & $2,542,100 & $5,236,300 & $47,546,000 \\
Profit & $94,410 & $164,660 & $1,030,100 \\
\hline
\end{tabular}
\caption{Profile of Loans Granted Through OMNI (Opportunities Minnesota, Inc.), August 1983—April 1991 (109 loans)*}
\end{table}

* Only loans with full data available were used in this analysis. Dollar amounts have been adjusted upward to current (1992) dollars.

\begin{table}
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\begin{tabular}{lrrr}
\hline
 & Mean & Standard Deviation & Maximum \\
\hline
Amount of loan & $1,575,800 & $935,010 & $4,372,900 \\
Interest rate & 9.27\% & 1.33\% & 11.62\% \\
Equity & $299,200 & $299,470 & $1,236,500 \\
Total debt & $323,530 & $754,850 & $3,956,700 \\
Net worth & $1,365,700 & $1,594,200 & $7,387,300 \\
Debt/equity ratio & 2.87 & 2.69 & 10.70 \\
Sales & $8,748,000 & $8,395,500 & $30,517,000 \\
Profit & $357,560 & $443,960 & $1,552,260 \\
\hline
\end{tabular}
\caption{Profile of Loans Granted Through SBDL (Small Business Development Loans), October 1984—September 1990 (34 loans)*}
\end{table}

* Only loans with full data available were used in this analysis. Dollar amounts have been adjusted upward to current (1992) dollars.
the loan displacement effect, below market rate loans shouldn't be given solely to those who could not otherwise obtain private financing.

Points 1 through 5 apply equally well to those applicants described earlier as statistically disadvantaged. Previous studies have shown that white borrowers with high debt/equity ratios and low net worth are more likely to default. And other studies of Small Business Administration loan programs have concluded that failure to deny minority applicants with these bad financials does indeed increase default rates. Thus, national evidence indicates that it is difficult to obtain a low default rate on non-market loans without using this risk reduction method. Is this also true in Minnesota?

At the time of the survey, only 12 percent of the OMNI and SBML program loans were either delinquent or in default. Consistent with national evidence, high debt/equity ratios and low net worth were contributing factors in the rejection of loan applications for both programs. But there were other contributing factors to this low default rate. First, most of these loans were made between 1983 and 1990, largely a period of sustained economic growth. The business cycle is an important determinant of small business defaults. So, the current recession may portend a higher default rate for both the OMNI and SBML programs. Second, the two Minnesota programs attempted to obtain adequate collateral for each loan made. Beside reducing the risk for the lender, pledging collateral may have provided an incentive to borrowers to take extra precautions to prevent their own default.

Still, it appears that these risk reduction methods are effective in lowering default rates, and have become ubiquitous, even in non-market financing programs. While the size of the borrower population that is statistically disadvantaged has never been determined, it is desirable to minimize it, especially in loan programs intended to improve market outcomes. What can be done to minimize the problem?

A Possible Solution: Innovations in Risk Sharing

As an alternative means of reducing the cost of defaults, lenders could develop ways of sharing default risk with their borrowers. This is important in situations where it is inherently difficult to predict the percentage of loans which will default, making loan pricing decisions difficult. Such situations are not uncommon. Small loan programs, for example, do not make enough loans to enable good estimates of the default rate by the law of large numbers. Insurance companies operating on such tiny scales would have a difficult time predicting their claims rate accurately enough to stay solvent.

Furthermore, default probabilities of small business borrowers tend to move together, increasing after unforecastable economic downturns and decreasing after recoveries. Economic theory predicts that relatively low risk borrowers, by their willingness to share such nondiversifiable risks with lenders, will benefit from a reduction in problems associated with adverse selection. Here are some ways in which lenders may choose to share nondiversifiable risks—both downside and upside—with borrowers:

- Programs could offer variable rate loans tied to some proxy for the nondiversifiable risk source—the unemployment rate for example. In this way, borrowers remaining solvent will share the cost of recession-induced defaults with lenders, and will benefit by lower rates during good economic times.
- Programs could devise a way of sharing their profits and losses with small business borrowers—issuing marketable stock to borrowers, for example. Such lending institutions would have a mutual aspect, similar to the Farm Credit System, but their stock would be marketable and potentially pay dividends.
- Programs could make each borrower partly responsible for the defaults of other borrowers. This cooperative approach to lending is already seen within some immigrant communities in the United States, and is probably best suited to very small operations within a close knit community.

Minnesota has been in the forefront of many innovative approaches to social problems. Its private, public, and nonprofit sectors would do well to consider these alternatives before expanding existing regulatory and subsidy programs.

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