

WORKING P A P E R

Small Business Assistance Programs in the United States

An Analysis of What They Are,
How Well They Perform, and
How We Can Learn More
about Them

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ABSTRACT

Small businesses play a significant role in economic development and growth in the United States and their vital importance in the American economy has prompted federal and state governments and private organizations to implement various programs to facilitate small business creation and expansion. Together, the small business assistance programs may exert significant impact on the entrepreneurial activities and profiles of small business owners in the United States. Yet our understanding is limited about the effects of these small business assistance programs, the features that make programs effective, and who benefits from the programs. This study documents the most important public and private programs designed to promote self-employment and small business creation, critically examines the existing research on the effect of those programs, and identifies new directions for future research on this topic. We find that business and self-employment assistance programs are heterogeneous in the sense that a multiplicity of programs serve a diverse clientele, are designed to meet varied needs, and are dispersed across geographic locations. Our understanding of the effects of business assistance programs is far from complete and the methodological challenges in identifying the effect of business assistance programs on business outcomes are, in part, a result of data limitations and the lack of experimental design in program evaluations. Thus few studies are able to identify a causal relationship between small business assistance programs and business creation and subsequent economic performance of assisted small firms. Moreover, the body of research has yet to identify the essential characteristics of effective small business assistance programs such as the optimal services to provide, what works best for whom or in what geographic locale, and how program effects relate to program costs. We identify several potential strategies that may be used with existing data to advance our understanding of program impacts. Combined with greater use of experimental methods, the evidence base can be extended to support sound policy decisions regarding the future of such programs.

I. INTRODUCTION

Small businesses play a significant role in economic development and expansion in the United States. According to the U.S. Small Business Administration (SBA), in 2006, 99.9 percent of the nearly 26 million firms in the United States were small businesses with fewer than 500 employees, most of which (97.5 percent of all firms) were very small businesses with fewer than 20 employees (SBA Office of Advocacy, 2006). Very small businesses, however, accounted for 50 percent of the non-farm real gross domestic product and 60-80 percent of net new job creation over the past decade (SBA Office of Advocacy, 2006).

Small business activity rests on a relatively small cadre of entrepreneurs who start and manage new enterprises. As of 2002, 10.5 percent of the economically active workforce in the United States was self-employed in incorporated or unincorporated businesses (Zissimopoulos and Karoly, 2005). The Kauffman Index of Entrepreneurial Activity indicates that the average percentage of the American adult population starting a new business each month in the years 1996 to 2005 fluctuated around 0.30 percent, with a decline to 0.27 percent during the high-tech bubble and a rise thereafter reaching a peak of 0.32 percent in 2003. The index, however, shows significant differences in business formation among demographic groups (Fairlie, 2006a), a finding that is consistent with the literature on self-employment. Research finds, for example, that men are more likely to seek self-employment than women and that married persons and persons with better education have higher rates of self-employment than unmarried and low educated individuals (Devine, 1994; Bregger, 1996; Manser and Picot, 1999; Georgellis and Wall, 2000). In terms of race and ethnicity, African Americans and Hispanics are less likely to be self-employed than whites, however business ownership is often cited as a path to economic

success for immigrant groups of various ethnicities (Fairlie and Meyer, 1996; Hout and Rosen, 2000).

The propensity of business formation is geographically heterogeneous. Mountain and Pacific states enjoy the highest rates of business formation and Middle Southern and Midwestern the lowest rates. The geographic difference is substantial considering that the highest state-level business creation rate (Vermont) is more than 3 times of the lowest rate (Delaware) (Fairlie, 2006b). The differences in entrepreneurial activities across groups and geographic locations may in part reflect an uneven distribution of entrepreneurial resources, including individual level resources such as human capital and wealth as well as community and state level resources such as entrepreneurial assistance programs, public and private financial resources and more generally, an entrepreneurial environment.

The vital importance of small businesses in the American economy has prompted federal and state governments and private organizations to implement various programs to facilitate small business creation and expansion. For example, Small Business Development Centers (SBDCs) offered by the SBA have provided business training and technical assistance to current and prospective small business owners in past decades. The 1998 Workforce Investment Act (WIA) authorized states to adopt Self-Employment Assistance (SEA) programs as part of their Unemployment Insurance (UI) program, although only seven states currently have programs in place. SEA participants are entitled to receive unemployment insurance benefits while starting a new business, instead of searching for a wage and salary job. While some small business assistance programs are universally available, others target specific groups. For example, SBA funded Women's Business Centers (WBCs) offer business assistance to new and nascent women business owners, especially those from disadvantaged groups. Moreover, there are hundreds of

microenterprise programs across the United States that provide business training, financing, and other assistance to entrepreneurs from different socio-economic groups with various resource needs.

Together, the small business assistance programs may exert significant impact on the entrepreneurial activities and profiles of small business owners in the United States. Yet how much do we know about the effects of these small business assistance programs, the features that make programs effective, and who benefits from the programs? Our aim in this study is to address this question by: (1) documenting the most important public and private programs designed to promote self-employment and small business creation; and (2) critically examining the existing research on the effect of those programs designed to promote entrepreneurship on various business outcomes. In addition, we seek to identify new directions for future research on this topic. In particular, we identify ways in which existing data sources may be used to expand the knowledge base of the effects of small business assistance programs on rates of entrepreneurship and the economic performance of small firms.

To preview our findings, we document that the class of small business (or self-employment) assistance programs is heterogeneous in the sense that a multiplicity of programs serve a diverse clientele, are designed to meet varied needs, and are dispersed across geographic locations. Our synthesis of the literature reveals that our understanding of the effects of business assistance programs is far from complete. Notably, many evaluation designs do not distinguish the effect of the program on business outcomes from the effect of the economy or other programs, or more generally do not measure the counterfactual of what business outcomes would have been in the absence of the program. The methodological challenges in identifying the effect of business assistance programs on business outcomes are substantial and are, in part, a

result of data limitations and the lack of experimental design in program evaluations. Thus few studies are able to identify a causal relationship between small business assistance programs and business creation and subsequent economic performance of assisted small firms. Moreover, the body of research has yet to identify the essential characteristics of effective small business assistance programs such as the optimal services to provide, what works best for whom or in what geographic locale, and how program effects relate to program costs. Despite these limitations of the research to date, we identify several potential strategies that may be used with existing data to advance our understanding of program impacts. Combined with greater use of experimental methods, the evidence base can be extended to support sound policy decisions regarding the future of such programs.

We organize the study in three main sections, supported by results arrayed in two-dimensional tables. The first section highlights the diversity of small business assistance programs in the United States today, including such features as program objective, services provided, targeted participants, funding source, and geographical coverage. The second section synthesizes the published literature that measures the outcomes for small business assistance programs. Research studies are characterized in terms of the program studied, data used, methodology employed, and findings. Using this framework, we assess what is known about the causal effects of small business assistance programs on business outcomes. The third section illustrates the features of several available data sources that may be exploited for the study of small business assistance programs, covering aspects such as the data design (e.g., cross-sectional or longitudinal), years available, sample size, response rates, business outcomes and other variables of interest, and sources of variation. From this information, we evaluate the usefulness of the available data to extend the existing literature on the effects of small business

assistance programs. The final section summarizes our findings and offers directions for future research.

II. THE LANDSCAPE OF SMALL BUSINESS ASSISTANCE PROGRAMS¹

In the United States, myriad services and information sources exist for new and aspiring entrepreneurs supported by both public and private funds. This study focuses on relatively larger-scale programs that provide assistance to new small business start-ups and support for established small firms to expand, where we limit our focus to those programs that provide direct services. Outreach programs, for example, whose sole purpose is to raise the awareness of available programs, are not included. We do not analyze internet-based information portals for small business owners, nor do we include for-profit service providers (e.g. commercial service and loan providers, venture capital firms, and so on).

Table 1 characterizes the 16 small business assistance programs in the United States that meet our criteria, where programs are grouped into six categories based on the types of services offered (shown in panels (a) to (f), respectively). For each program, the rows contain the full program name and initiation year, along with the program objective, eligible participants and numbers served, funding sources and level, and geographic coverage. It is evident from Table 1 that the 16 programs share a common objective of promoting the formation and continuation of small business, either on a universal basis or for targeted communities or populations of entrepreneurs. Despite this common goal, the programs vary in terms of the means they use to reach their objectives, with a range of services designed to support business development and

¹ This section draws on information about the programs we discuss from various sources including program websites (e.g. official websites of SBA, SCORE, DOL, SBI, UEP and other related websites) and program documents and reports (e.g. Bellotti et al., 2006; Godwyn et al., 2005; Kosanovich et al., 2001; U.S. SBA, 2007; and SBA Office of Advocacy, 2006).

success and through both universal and targeted mechanisms. They also rely on varied funding sources and operate on different scales and with differences in geographic coverage. We now review each of these dimensions in turn and conclude by discussing how the heterogeneity across programs can potentially be exploited to evaluate program effects. The host of smaller-scale microenterprise programs are not included in the table but will be discussed at the end of the section.

Diversity of Services

The services provided by small business assistance programs are diverse. For purposes of this discussion, we group the services into four broad categories: business assistance, loans, grants, and specialty services (e.g. assistance with procurement of federal contracts). We organize the programs in Table 1 according to their services or combination of services in panels (a) to (f), respectively: business assistance only, loan supply only, grant only, contracting service only, business assistance and contracting service, and business assistance and loan supply.

Seven of the 16 programs primarily provide business assistance to small businesses (see panel (a)), while another four programs provide a combination of business assistance and other services (see panels (e) and (f)). Although detailed services are program dependent, business assistance usually includes a combination of business consulting, counseling, training, and technical assistance. These services are designed to give potential entrepreneurs the skills in planning for a new business (e.g., creating a business plan), as well as the know-how to execute the plan. For current business owners, the services can be directed toward business expansion or refining the business model for greater success. Presumably, based on the technical assistance, some individuals may be deterred from starting a new business as a result of a more rigorous

planning process, and current owners may scale back plans for expansion. In this way, better planning may ensure that only the enterprises that are likely to be most successful are pursued.

For instance, the SBDC and Service Corps of Retired Executives (SCORE) are two major programs offering counseling and training in all aspects of small business management. The SBDC, for example, assists small business with financial, marketing, production, organization, engineering and technical problems and feasibility studies. SCORE offers similar services (both face-to-face and online), with a focus on pre-startup activities. Because the services provided by SBDC and SCORE are available almost everywhere across the country (and free, in most cases), some programs—for example, the Self-Employment Assistance (SEA) program and Project GATES (Growing America Through Entrepreneurship)—leverage the counseling services from SBDC or SCORE instead of offering the same services themselves. Through the SBA 7(j) Program, SBA funds vendors to deliver business assistance services in disadvantaged communities where SBA services are otherwise not available. The Women’s Business Center (WBC) Program is likewise targeted to serve women business owners, especially those from socially and economically disadvantaged backgrounds, while the Urban Entrepreneurship Partnership (UEP) targets minority business owners. Most counselors and advisors who deliver business assistance are professionals with substantial experience in business management. The only program that primarily uses students as the counselors is the Small Business Institute (SBI) in which teams of business students, supervised by faculty, serve as counselors.

Liquidity constraints or inadequate access to credit are often cited as a barrier to entrepreneurship (Evans and Jovanovic, 1989; Holtz-Eakin et al., 1994; Blanchflower and Oswald, 1998). Aside from the small loans provided through small-scale microenterprise programs (discussed below), SBA provides most small business loans (see panels (b) and (f)).

With a loan portfolio of tens of billion of dollars, SBA is the single largest creditor for U.S. small businesses (Craig et al., 2007). Major SBA loan programs include the 7(a) Loan Program and the smaller 504 Loan Program (see panel (b)). Both target small businesses that are unable to obtain commercial loans through normal lending channels. The 7(a) Loan Program partially guarantees the repayment of small business loans made by commercial lenders, with the guarantee covering a portion (up to \$2 million) of the unpaid balance on a defaulted loan. The SBA 504 Loan Program provides long-term, fixed-rate financing to small businesses only for the purchase or improvement of fixed assets. Two other SBA loan programs also provide business assistance services (see panel (f)). The SBA Microloan Program provides very small loans (up to \$35,000) through non-profit lending intermediaries primarily for small start-up businesses. Other SBA-backed loans are provided through the Small Business Investment Company (SBIC) Program, where privately owned companies, regulated by SBA, provide funds from private investors and SBA debentures, as well as relevant technical assistance, to eligible small firms (U.S. SBA, 2007).

The Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTP) are the largest small business grant programs (coordinated by SBA) in the United States, designed to provide R&D funding to small technology-oriented firms (see panel (c)). SBIR awards grants to small firms with promising innovation concepts while STTP, an extension of SBIR, awards grants to finance research cooperation between small technology firms and academic research institutes.

SBA also provides specialty services such as assistance in obtaining government contracts, specifically for small disadvantaged businesses (SDBs) (see panels (d) and (e)). The SBA HUBZone Empowerment Contracting program is essentially a federal contracting

assistance program specially designed for small firms in historically underutilized business (HUB) zones. Participants in the SBA 8(a) Program—available to eligible small businesses owned by individuals in socially or economically disadvantaged groups—receive SDB certification, as well as business assistance for nine years. During that period, 8(a) firms are eligible for special benefits in federal contracting, such as receipt of sole-source contracts and eligibility to bid on federal contracting set asides for 8(a) firms.

Universal and Targeted Programs

As is evident from the discussion of program services, the small business assistance programs listed in Table 1 include those that are designed to serve the general population, as well as others that are targeted to serve the needs of specific groups such as women or socially and economically disadvantaged persons. Anyone who wants to start or improve a small business is eligible to receive services from the SBDC, SCORE, SBI, and Project GATE, although special attention is given to disadvantaged groups in each of these programs.² The SBDC, for example, places a priority on reaching individuals in socially and economically disadvantaged groups, as well as veterans, women, and the disabled. SBA loan programs are available to all small business owners, while the grant programs are open to all technology-oriented small firms. SEA, by targeting UI claimants, aims to use the situation of job loss and the flow of UI benefits as an opportunity to transition individuals into self-employment rather than another wage and salary job.

Targeted programs are often motivated by the understanding that certain groups may have historically faced discrimination or other barriers to small business ownership such as more

² Participants in Project GATE in the demonstration period are subject to random assignment. Therefore, not everyone applied actually received the service. However, the application is open to everyone.

limited access to capital or federal contracting. Program services are designed to give those groups an advantage in the marketplace until they are able to compete more fully on their own without assistance. Targeted populations include those groups that are historically underrepresented as small business owners such as women, racial and ethnic minorities, individuals with low income, and those in distressed communities. For example, WBC is the largest federal small business assistance program specifically designed for women business owners. Minorities are targeted by UEP, while the SBA 7(j) program serves disadvantaged business owners in geographic areas without access to other SBA services. The SBA 8(a) program provides management and contracting assistance exclusively to business owners certified by SBA as SDBs. The time limit on that program (nine years) reflects the expectation that the need for specialized services should diminish as firms gain standing in the marketplace (in this case the world of federal contracting).

Funding from Public and Private Sources

Most of the programs listed in Table 1 are public assistance programs funded by federal and state governments. Several large and influential programs are administered and funded entirely by the SBA, while others are funded by SBA and matching funds (e.g., SBDCs, and WBCs). The SBDC, one of the largest small business assistance programs in the United States, receives less than half of its funds from the SBA, with the rest coming from state and local governments and other sponsors. The U.S. Department of Labor (DOL) is another smaller source of federal funding source for small business assistance programs, through Project GATE (funded for a five-year demonstration since 2003) and the SEA program (as part of the UI program administration). Other federal agencies support the SBIR and STTR grant programs through funds reserved for small business R&D.

Private foundations and other private organizations are also important funding sources for small business assistance programs. Although unusual to be a sole funding source of programs, private sponsors either provide matching funds or play an active role in public-private initiatives for small business assistance. The UEP, in which private organizations both fund and manage the initiative, provides an example of the latter case. Although most programs are funded at least in part by federal and state governments, the majority of the programs rely on a close partnership among different public agencies, private organizations, and in some cases, academia. In the case of the SBDC, for example, stakeholders include the SBA, state and local governments, institutions of higher learning, private enterprise, and local nonprofit economic development organizations. As another example, SBA loan programs depend on the partnership between SBA offices and commercial banks and nonprofit community-based intermediary lenders.

Range of Program Size and Geographic Coverage

We evaluate the size of the programs in Table 1 based on their annual budget and the number of clients served per year, using data for the most recent year available.³ In making comparisons, we exclude the budgets for SBIR and STTP as they reflect the dollar amount of grants awarded each year, whereas the budgets for the other programs in Table 1 represent administrative costs only. In terms of both budget and service measures, the SBDC is the largest program. With an annual federal budget of more than \$100 million (not including local matching funds), the SBDC serves more than 1 million clients per year. With annual budgets of tens of million dollars and hundreds of thousands of clients, the WBC and SCORE are also large programs offering general business assistance. The SBA 7(a) Loan Program is the largest among

³ In some cases, funding levels and data on numbers served are not available.

the loan programs, operating with nearly twice the budget and eight times the number of clients served as the two other SBA loan programs combined (504 and Microloan programs). Budgets for the SEA programs vary across sites and are generally small. Project GATE has a relatively small budget because it is in the pilot project stage.

In general, SBA programs have a larger size than other public and public-private programs. Programs that serve the general population of small business owners are larger than those serving a more targeted population, like individuals from disadvantaged backgrounds or communities. And naturally, national programs are larger than programs implemented in selected locations. Most of the programs list in Table 1 are national in scope, available in all states, Washington D.C., and some U.S. territories. The exceptions are SEA, UEP, and Project GATE. These programs are implemented in selected state or sites only. All states are authorized by Congress to adopt SEA programs but only a few have done so. Project GATE and UEP are demonstration projects and may expand to new locations if there is evidence of success. Even for those programs with national coverage, however, the level of geographic penetration can vary. For example, WBC has 99 centers across the country while SBDC has nearly 1,000 centers. Usually, a program follows a similar design in all its service locations with adjustments based on local conditions. This is not always true. Programs composed of loosely connected local service providers, like participating non-profit organizations in WBC and participating local colleges in SBI, may use very different program designs according to their own expertise and conditions.

Multiple Dimensions of Program Variation for Analysis

Program heterogeneity, in terms of geographic location, initiation date, how it has changed over time, and populations served provides useful variation for understanding the casual effect of programs on the intended beneficiary. Table 1 summarizes the relevant variation for the

16 programs we consider, the most common being variation in program availability over time and across geographic locations. For example, most SBA programs have a long history and have established centers in different locations in different years. Other programs like Project GATE and UEP have been in service for only a couple of years and operate in select locales. The various grant and loan programs have generally varied in level of funding or awards by location and across years. Business assistance and contracting service programs that are not center-based—SBA 7(j) and 8(a) programs in particular—have variation across time and place in the number of clients served.

Multitude of Microenterprise Assistance Programs (MAPs)

In addition to the larger-scale programs listed in Table 1, there is a host of business assistance programs across the country that provide services to “micro” enterprises—very small businesses with five or fewer employees and a start-up capital requirement of less than \$35,000 (Edgcomb and Klein, 2005). Although the exact number of microenterprise assistance programs (MAPs) is not readily available, the microenterprise program directory compiled by the Aspen Institute lists more than 500 such programs, unevenly distributed across the country (Walker and Blair, 2002). As a group, MAPs focus on an even broader set of underserved populations than the programs listed in Table 1, ranging individuals with low income, to racial and ethnic minorities, to welfare recipients and refugees, to persons with disabilities (Edgcomb and Klein, 2005). MAPs may provide business assistance (business training and technical assistance) only, loan service (direct microloan or peer-lending or both) only, or both assistance and loans. With an average annual budget of around \$420,000 and average staff size of 5 or fewer persons, MAPs are typically very small organizations. MAPs obtain funding from various sources, with federal

and private funding accounting for the largest share. In fiscal year (FY) 2002, MAPs provided assistance to 26,441 small businesses and 6,817 loans were made.⁴

MAPs are very diverse in terms of services, participants, size, mission and so on. In order to facilitate the evaluation of MAPs in the United States, Johnson (1998) created a useful typology according to their mission, participants, and lending practice.⁵ The author identified three major forms of MAPs: empowerment oriented (programs offering group lending to specific groups), economic development oriented (programs offering individual loans with no eligibility requirements), and multipurpose (programs offering a combination of lending practice, with target groups but open application to everyone) (Johnson, 1998).

III. EFFORTS TO EVALUATE SMALL BUSINESS ASSISTANCE PROGRAMS

The prior section serves to highlight the significant investment in the United States in various types of small business assistance programs. In this section, we seek to understand how much we know about the impact of these programs. In doing so, our interest is in going beyond descriptive analyses of programs in terms of clients served or services delivered. Instead, we want to know whether these programs change the outcomes of those who receive services from what they would have been in the absence of the program. In other words, we want to understand the causal impact of these programs. However, to illustrate the state of current knowledge, we cast our net somewhat wider and do include more descriptive studies. Our focus is on evaluations of programs in the United States.⁶

⁴ MAPs statistics cited in this paragraph were obtained from Aspen Institute (2005).

⁵ Business assistance was not included because the majority of all MAPs offer business training or technical assistance (Johnson, 1998).

⁶ We do cite relevant literature from evaluations of programs in other countries, primarily from the United Kingdom, to illustrate points regarding methodology.

In all cases, we rely on studies in the peer-reviewed literature, primarily conducted by independent academic researchers. This means that we exclude process evaluations conducted by program administrators or the contractors they hire, as these studies are typically not published in peer-reviewed journals (although they are usually available online). The SBDC, for example, produces an annual economic impact report of SBDC counseling services, conducted by an independent consultant. Project GATE also produces interim reports about program implementation, conducted by IMPAQ International. Generally, these reports find a positive relationship between program activities and client outcomes. Although evaluations conducted by or for program administrators are an excellent information source on program operations, they do not employ methods that support a causal link between the programs and outcomes.

In order to identify causal effects of small business assistance programs, the methodology employed is critical. The ideal methodology, often called the gold standard of program evaluation, is a randomized control trial (RCT). In this approach, business owners (or potential business owners) are randomly assigned to the treatment group, which receives the program services (participants) or the control group that does not receive the services (nonparticipants). When properly implemented, an RCT ensures that differences in outcomes between the treatment and control groups can be attributed to the factor that systematically differs between the two groups: participation in the program of interest.

Since RCTs can be expensive or impractical to implement, researchers have developed other quasi-experimental methods that provide a high degree of confidence that causal impacts are measured. For example, a comparison group of nonparticipants that is closely matched to the group of participants may be defined and appropriate statistical techniques used to isolate the program impact. Other statistical techniques may be used to control for any bias introduced

when participants self-select into a program. When less rigorous evaluation designs are used, the resulting analysis may provide interesting descriptions of the individuals or businesses that chose to participate in a program and their associated outcomes, but the results generally cannot be used as an indication of the casual effect of the program on those outcomes.

Table 2 includes 22 studies in the published literature that evaluate U.S. small business assistance programs. The studies are grouped into four methodological categories arrayed from most rigorous to least rigorous (see panels (a) to (d), respectively): random assignment, econometric analysis, mean comparison, and descriptive analysis. For each study, we identify the program(s) studied, data used, features of the methodology (i.e., use of a control/comparison group, measure of program participation, outcomes studied, and covariates employed), and the findings. In the discussion that follows, we draw on the information in the table to assess what is known about the causal effects of small business assistance programs on business outcomes. Since the methodology employed is critical for the ability to measure causal effects with confidence, we start by reviewing programs in terms of their methodological approach. We then discuss other key features such as data employed and outcomes analyzed before summarizing the findings that emerge from this body of research.

Methodology

It is evident from Table 2 that the gold standard of random assignment is the exception rather than the rule in this literature (see panel (a)). Notably, Benus (1994) is the only study to date that uses an experimental methodology, in this case to evaluate two state demonstration programs implemented in the early 1990s. The two projects are the Washington State Self-Employment and Enterprise Development Demonstration and the Massachusetts Enterprise Project—the first two federally funded UI self-employment demonstration projects (Benus,

1994). Project GATE is also being evaluated using an experimental design, however, no published results from that component of the evaluation are available to date.⁷

The vast majority of the studies listed in Table 2 use econometric analysis or means comparison methods (see panels (b) and (c)). Seven studies use multivariate regression methods (i.e., econometric analysis) to study the effectiveness of various small business assistance programs. The studies differ in many ways including outcomes studied: client evaluation (Weinsten et al., 1992); business survival (Bates, 1995; Chrisman and McMullen, 2004); economic performance of assisted businesses (Lerner, 1996); local labor market employment rate (Craig, Jackson, and Thomson, 2007); and household income and poverty (Sanders, 2002). Although these studies differ in many ways, they share other similarities. All the studies include covariates to reduce bias from omitted variables on the program coefficients of interest. The studies vary in the control variables they use which will affect the quality of their results. Studies that investigate the effect on economic performance of small firms, like Bates (1995), Chrisman and McMullan (2004), Chrisman, McMullen, and Hall (2005) and Lerner (1996), include controls for characteristics of both business owners and the businesses (e.g. firm size and industry) in the regressions. Papers that study the effect on employment outcomes of assisted individuals, like Sanders (2002), control for demographics and the human capital of assisted individuals. Craig, Jackson, and Thomson (2007) control for characteristics of local markets (e.g. market liquidity, per capita income of local market, per capita bank deposit and deposit market Herfindahl index).

⁷ The Project GATE interim report indicates that an impact analysis and a cost-benefit analysis will be conducted and reported in a final report (Bellotti et al, 2006).

More important, most of the econometric studies do not use a quasi-experimental design because of the difficulty of identifying a valid non-client comparison group. The lack of a valid comparison group makes it difficult to infer the counter-factual: what would have been the outcome without program assistance. Of the seven studies utilizing multivariate regression methods, only two used a matched comparison group. Lerner (1996) created a group of 594 firms that do not receive SBIR awards to compare with 541 awardees. The comparison group is matched by industry and employment. Sander (2002) created two non-MAP client comparison groups using Panel Study of Income Dynamics (PSID) data: non-participating self-employed workers and wage and salary workers. The two comparison groups are matched along key demographic characteristics including education, age, household size, race, gender, marital status, and presence of children age five and under. These studies, however, may still suffer selection bias if they were not able to control for all characteristics that affect the propensity of program participation and are correlated with business success (e.g., underlying business acumen or motivation). As an alternative to using matched comparison groups, several studies in the United Kingdom model both the decision to participate in the small business assistance program and the business outcomes (Roper and Hewitt-Dundas, 2001; Wren and Storey, 2002). The methodological challenge with directly modeling program participation is to identify variables that affect program participation but do not otherwise explain variation in the program outcomes (also known as exclusion restrictions).

Another twelve evaluation studies listed in Table 2 (see panel (c))—almost exclusively focused on SBDC—base their results on mean comparisons, comparing outcomes for program participants with some reference or comparison group or comparing outcomes across different subgroups of participants (e.g. urban/rural, male/female, nonminority/minority). Unlike

regression analysis, this method examines key client outcomes without controlling for confounding variables, which makes these studies more susceptible to selection bias. Because the data on economic performance before program utilization is not applicable for new firms and is usually not collected for existing firms, studies that use mean comparison as the main analysis technique often compare the post-service performance of assisted firms to that of non-assisted firms. The vast majority of studies choose aggregate level (state-level or nation-level) performance statistics or results from previous studies as the comparison benchmark. For example, Chrisman et al. (1985) use average performance of all firms in Georgia and South Carolina as the benchmark, while Chrisman and Katrishen (1994) use the average performance level of all U.S. firms as a benchmark. Chrisman, Hoy, and Robinson (1987) and Chrisman and McMullen (2000) use results from other studies and state/national averages as benchmarks for different performance indicators.

Several of the mean comparison studies investigate the differential effect of performance of clients across different subgroups, including urban versus rural or regional differences (Chrisman, Gatewood, and Donlevy, 2002; Chrisman, 1999), male versus female differences (Chrisman et al., 1990), and differences by race-ethnicity (Chrisman and Carsrud, 1991). Chrisman and Leslie (1989) compared the effect of different types of assistances received (e.g. administrative, operating, or strategic assistance). In this group of studies, Robinson (1982) is the only study that uses two control groups matched by type of business, annual sales and number of employees.

Finally, Rocha and Khan (1984) and Nahavandi and Chesteen (1988) use descriptive analysis as their methodology (see panel (d)). Both studies use only simple statistical tabulations to present their evaluation outcomes with no control or comparison groups.

Data Utilized

Most of the evaluation studies listed in Table 2 rely on program administrative data or surveys of clients in a specific program. One exception is Bates (1995) which relies on the Characteristics of Business Owners (CBO), a large-scale national dataset.⁸ However, since the CBO was not designed to evaluate any given program, it does not collect information about participation in specific programs but only on general types of assistance received. The alternative is to use specialized data for specific programs. However, the cost is often smaller sample sizes and less geographic coverage. For example, a number of the studies in Table 2 use data from state or local surveys of small business assistance programs (e.g., Robinson, 1982; Rocha and Khan, 1984; Chrisman et al., 1985; Pelham, 1985; Nahavandi and Chesteen, 1988; Chrisman and Leslie, 1989; Chrisman et al, 1990; Chrisman and Carsrud, 1991; Weinsten, Nicholls, and Seaton, 1992; Benus, 1994; Chrisman and McMullan, 2000). Such data usually have relatively small sample sizes.⁹ In addition, the data collection efforts often suffer from low responses rates, leading to potential response bias although some studies report no response bias detected in terms of critical parameters (e.g. Robinson, 1982; Chrisman and Leslie, 1989; Chrisman et al, 1990; Chrisman and Carsrud, 1991; Chrisman and McMullan, 2004; Chrisman, McMullan and Hall, 2005).¹⁰

⁸ As we discuss in the next section, the CBO is a national sample of small firms with information about their utilization of general types of small business assistance rather than participation in specific programs like those listed in Table 1.

⁹ For example, Robinson (1982) has 101 firms in the sample; Chrisman, Nelson, and Robinson (1985) have 84 small businesses in the Georgia sample and 19 in the South Carolina sample; and Chrisman, McMullan and Hall (2005) have a sample of 159 new ventures.

¹⁰ A typical response rate for such surveys is between 20 percent and 30 percent. For example, Chrisman, McMullan, and Hall (2005) reported that the overall response rate is 28 percent. And the response rates by year (it is a multiple year sample of a Pennsylvania SBDC) are 24 percent in 1992, 24 percent in 1994, and 36 percent in 1996.

There are a few exceptions where national survey data with larger samples are used to evaluate program performance (Chrisman and Katrishen, 1994; Chrisman, 1999; Chrisman, Gatewood, and Donlevy, 2002). However, as with the local data, even the national data sources are cross-sectional.¹¹ Lack of longitudinal performance data prevents using panel data evaluation methods and precludes comparisons of economic performance of small businesses across years, as well as any evaluation of long-term effects.¹²

Outcomes Studied

Evaluation studies on small business assistance programs use different measures of effectiveness and efficiency, depending upon the data used (individual or business level) and the research questions answered. McMullan, Chrisman, and Vesper (2001) classify measures of effectiveness used in the literature into three types: (1) subjective measures of client satisfaction, (2) perceptions of performance improvement attributable to the programs, and (3) objective measures of post-assistance business performance.

Subjective client satisfaction is generally measured on a scale and this outcome is often utilized along with more objective measures because of concern that these two types of measure are not necessarily correlated (McMullan, Chrisman, and Vesper, 2001). For example, Pelham (1985) uses subjective measures (6-point scale of service quality) in concert with objective economic measures (job generation rate, sale increases rate, failure rate, incremental taxes from job and sales). Chrisman and McMullan (2000) evaluate both client satisfaction and economic performance measures (survival rate, sales revenue and growth rate, innovation rate). Of the

¹¹ One exception is Chrisman and McMullan (2004), which has a follow-up study of the same cohorts. However, even for this study, only two time points are available.

¹² With few exceptions (e.g., Chrisman, McMullan, and Hall, 2005), most survey data measure only short-term effect of assistance program (e.g., one year after assistance).

objective measures, many studies use business survival, sales revenue or growth and employment level or growth (Robinson, 1982; Solomon and Weaver, 1983; Chrisman, Nelson, Hoy, and Robinson, 1985; Chrisman, Roy, and Robinson, 1987; Chrisman and Leslie, 1989; Chrisman and Katrishen, 1994; Lerner, 1996; Chrisman, 1999; Chrisman, Gatewood, and Donlevy, 2002; Chrisman, McMullan, and Hall, 2005). A few studies use all three types of measures (Chrisman, Roy, and Robinson, 1987; Chrisman, Gatewood, and Donlevy, 2002).

Studies that evaluate the effect of programs on individual outcomes often use different measures. Benus (1994), for example, studies the likelihood of entry into self-employment, the timing of this entry, the likelihood of remaining self-employed, and the impact on total employment. Sander (2002) measures the effect of MAP on household income and poverty status of clients. The focus on individual outcomes allows for the possibility that small business assistance programs may help individuals select the labor market path—self-employment versus wage and salary work—where they will be most successful. Thus, self-employment rates may decline but overall family income may rise or periods of unemployment may decline.

Programs Evaluated and Findings

As the largest small business assistance program in the United States, the SBDC has attracted the most attentions from researchers. Among the 22 studies list in Table 2, 14 investigate the effect of SBDC counseling services and most are by the same author (with various co-authors). However, it is important to keep in mind that none of these studies use a very rigorous methodology to ensure that causal program impacts are measured. Twelve of the 14 studies use a weaker mean comparison or simple descriptive methodology. Only two use multivariate regression to control for potential confounders, and in those cases no comparison group is included. Keeping this limitation in mind, we note that all studies of the SBDC report a

positive relationship between SBDC services and business outcomes and several studies claim the services are a cost-efficient way to promote entrepreneurship (Chrisman et al., 1985; Pelham, 1985; Chrisman, Hoy, and Robinson, 1987; and Chrisman and Katrishen, 1994). Based on the results of the first national study of SBDC economic impact, for example, Chrisman and Katrishen (1994) reported that \$3.7 billion in new sales and 65,000 new jobs were generated in 1991 by small business that were SBDC clients in 1990. The authors also estimated that the program outcomes generated approximately \$2.61 in incremental tax revenue for every dollar spent.¹³

The research also suggests an inverted U-shaped relationship between the number of hours of SBDC counseling and business survival (Chrisman and McMullen, 2004) and between program services and long-term growth (Chrisman, McMullan, and Hall, 2005). Although Chrisman, McMullan, and Hall (2005) interpret this non-linear relationship to mean excessive counseling has a detrimental effect on outcomes, it is likely that those firms that seek the most counseling may be the worst off—in other words, the selectivity of program intensity means the results can not be interpreted as causal. Chrisman and Leslie (1989) compared the effect of program on sales growth and profit added by different types of assistance received by clients. They reported that not all types of assistance have the same effect on client performance: clients benefit more from administrative and operating assistance than from strategic assistance and assistance with a comprehensive approach serves clients the best.

Several studies investigate the effect of SBDC assistance across subgroups of clients. Generally, these studies reported no significant difference in the effect of assistance across

¹³ The 2003-2004 economic impact study of SBDC reported approximately \$6.1 billion in new sales and 74,253 in new job creation as a result of the service (Chrisman, 2005). The study estimated that the SBDC service generated \$2.78 in tax revenue for every dollar spent on the program.

subgroups, although differential selectivity in who participates across the subgroups examined may bias the estimated differential. Chrisman, Gatewood, and Donlevy (2002) argue that the program is equally effective in urban and rural setting and therefore it is not necessary to arrange special SBDC services or other programs for rural entrepreneurs. Chrisman et al (1990) reported similar effect of SBDC assistance on male and female clients, while Chrisman and Carsrud (1991) argue that SBDC assistance is equally effective across different racial/ethnic groups.

Studies on other small business assistance programs are relatively rare but three of the studies with the strongest methodology fall in this group. Benus (1994), using an experimental design, reported that the state UI self-employment demonstration projects assessed in Massachusetts and Washington raised the rate of entry into self-employment, shortened the time elapsed before entry, raised the duration of self-employment, and increased the total employment rate (self-employment or wage-salary work) of clients, compared with the control group. Some of these effects were substantial while others were more modest. For example, in Massachusetts, 47 percent of participants entered self-employment compared with 29 percent of the control group, and the time to entry was shorter for the treatment group by 2.4 months. A similar differential was measured in Washington (52 versus 27 percent, and earlier entry by 5.9 months). However, the projects had no effect on the probability of staying in self-employment once people entered and there was only a modest increase in duration of self-employment (3.9 months for the treatment group compared with 2.3 months for the control group in Massachusetts, and 5.8 versus 1.9 months in Washington).

The two studies that used econometric methods with a matched comparison group find different results for the two programs examined. Lerner (1996) reported the significant improvement of SBIR awardees in sales and employment, although this effect is not uniform in

all locations. Sanders (2002) found the MAPs studied have no significant effect in helping clients to increase household income and move out poverty.

The remaining evaluations use weaker designs but generally find favorable program effects. Weinstein et al. (1992) report positive client evaluations of SBI assistance services. Solomon and Weaver (1983) and Rocha and Khan (1984) both reported positive effect of SBI service on business performance of clients. Craig, Jackson, and Thomson (2007) report an increased local labor market employment rate associated with the SBA 7(a) guaranteed loan program. Bates (1995) is the only study that investigates the effect of assistance programs in general using a national database (the CBO). The author reports differential effects of assistance programs on survival between minority-owned firms and non minority-owned firms: no effect for the former but improved survival for the latter. The study also argues that the evaluation of assistance programs is intrinsically hard because many firms use multiple assistance programs.

Several studies discuss the reason why some program clients do not implement the recommendations offered by the consultants. Nahavandi and Chesteen (1988) reported that lack of necessity and consultant expertise is among the top reasons that SBDC clients do not implement recommendations offered. Solomon and Weaver (1983) reported that the primary reasons why SBI client did not implement are either recommendation is too costly or the recommendation does not address clients' needs. Rocha and Khan (1984) reported that the top reasons that SBI clients did not implement recommendations are the cost and riskiness of the recommendations.

Need for More Rigorous Research

In a recent study of small business policy in the United Kingdom, Curran (2000) concludes that the research lags far behind the growth of the programs. The same could be said

for the state of knowledge of the impact of small business assistance programs in the United States. Despite their policy importance, such programs have not been evaluated using the most rigorous methods to ensure that causal program effects are being measured. Just one of the studies we captured in our scan of the literature was based on results from an RCT—the gold standard of program evaluation. Only a few other studies might qualify as using an appropriate quasi-experimental design with an adequate comparison group and controls for other confounding factors. The remaining studies use much weaker designs, designs that are also often compromised by small sample sizes, limited to specific geographic locales, and potentially biased by low response rates.

With so few reliable studies, it is hard to be definitive about the effects of small business assistance programs on relevant outcomes. The one experimental study suggests favorable effects of self-employment assistance to unemployed workers, although the benefits were largely related to entry into self-employment rather than sustained success of the new businesses. Moreover, these were two demonstration projects in the 1990s in separate states that may not be generalizable to current programs or other states. Other more rigorous designs show mixed results for technology-oriented small business grants and for services provided to microenterprises. The SBDC program has received the most study but with consistently weaker evaluation designs. Thus, while the cumulative evidence from that body of work suggests the program has favorable impacts and is even cost-beneficial, the methodological limitations cast doubt on whether the same effects would be evident using more rigorous designs. Moreover, the existing literature does little to shed light on other issues of critical importance for policy such as which features make programs effective and whether there are differential benefits for population subgroups.

IV. POTENTIAL DATA TO EXTEND EXISTING RESEARCH

Given the limitations of the research to date, it is reasonable to ask whether existing data sources could be exploited to strengthen the knowledge base about the causal effects of small business assistance programs. To address that question, Table 3 summarizes the data sources that could potentially be used to extend the existing literature. Although we do not intend to fully capture all potential data sources, the eight sources listed in Table 3 contain the main larger-scale sources and are illustrative of the types of data that could be used for program evaluation. Notably, only two of the data sources have been used in the literature reviewed in the prior section (the CBO by Bates, 1995; and the PSID by Sanders, 2002).

For each data source, Table 3 provides various details including whether it is longitudinal (or alternatively cross-sectional), the years available, sample sizes, response rates, outcome measures and other variables of interest, and sources of variation. Using this information, we first briefly review the features of the data sources and then assess their usefulness for further evaluation of small business assistance programs.

Data Sources and Their Features

The eight data sources listed in Table 3 are stratified into two main groups. The five data sources in panel (a) are large-scale databases of U.S. small business owners or small businesses that would support analysis of business outcomes such as sales (revenue) and employment. The four sources that provide panel data also include information on the opening, closure, and survival of the firms. The other three data sources listed in panel (b) are population-based surveys with measures of employment outcomes for the sampled individuals such as the class of worker (self-employment vs. wage and salary worker), sources of income, and unemployment status (receipt of unemployment insurance and duration).

All data sets in Table 3 have a longitudinal design except the 1992 CBO, which is a single cross-section. Comprehensive business databases such as the Longitudinal Business Database (annual since 1976) and the National Establishment Time-Series Database are business directories that track millions of businesses over time, capturing when they start and fold. The smaller Kauffman Firm Survey is following a panel of nearly 5,000 firms, with baseline data and two follow-ups available. Smaller still is the Panel Study of Entrepreneurial Dynamics (PSED) that has two panels of entrepreneurs, with 4 waves for the first cohort (a sample of 830) and 3 waves for the second cohort (a sample of nearly 1,200). Among the population-based surveys, the PSID has the longest panel, dating back to 1968. The National Longitudinal Survey of Youth (NLSY) has followed two age cohorts. NLSY 1979 cohort was surveyed annually from 1979-1994 and has been surveyed biannually thereafter; and the NLSY 1997 cohort has been surveyed annually since 1997. The Current Population Survey (CPS) is typically used as a repeated cross-section survey, but it too has a longitudinal dimension.¹⁴

Most of the data sets listed in Table 3 generally have large samples of respondents of several thousand or tens of thousands. The large sample size improves the power of econometric techniques to detect real difference of performance measures between clients and non-clients. In addition, most of the data sources have a very high response rate. The response rates for the CPS, NLSY, and PSID, for example, are well above 90 percent, in contrast to the average response rate of 20 to 30 percent for the survey data used in much of the literature we reviewed in the

¹⁴ The monthly CPS includes rotation groups of households that are in the survey for 4 consecutive months, out for 8 months, and then return for another 4 months before leaving the sample permanently. The March survey includes additional information on income and sources of income for the prior calendar year. In any given March CPS, half the sample rotation groups were in the survey the prior March, while the other half would be in the survey rotation groups in the following March.

prior section. Other features of the data sources will be discussed below in the context of the usefulness of these sources for further research.

Potential Value for Evaluating the Effects of Small Business Assistance Programs

Generally, there are three types of data researchers may use to evaluate small business assistance programs. The gold standard of program evaluation would require data collected from a randomized experiment, with information on the outcomes and characteristics of program participants and nonparticipants where those two groups were determined by random assignment. To our knowledge, there is no such data currently available except for the data collected from the two UI self-employment demonstration projects used by Benus (1994). Project GATE is the only active program that randomly assigns applicants to receive services or not. However, the Project GATE data are not publicly available.

In the absence of experimental data, researchers must rely on observational data and use appropriate statistical techniques to measure program impacts. One type of observational data that would support program evaluation would contain information on program participants and nonparticipants, their characteristics, and their outcomes. The strength of this type of data is that they can be used to directly evaluate the effect on client outcomes of one specific program or a set of programs more generally (depending on the structure of the data). However, with such observational data, program participation is not randomly assigned, so researchers must be able to account for possible selectivity in who chooses to participate in the program so as to eliminate any bias in measures of program impact. Researchers therefore need data that support appropriate statistical techniques to correct for potential selection bias, approaches that may include directly modeling the program participation decision.

A second type of observational data does not include measures of program participation but only measures of outcomes for firms or individuals, with coverage of outcomes across geographic areas or through time or both. Although program participation is not directly observed, variation through time and/or space in program availability or program activity can be correlated with the outcomes of interest, either at the micro-level (e.g., individual or firm) or at a more aggregate level (e.g., local market, county, or state). Such data could be used to examine, for example, if areas with wider availability of a given program had better outcomes (e.g., higher rates of self-employment, more small business, or more successful small businesses). Again, appropriate statistical techniques must be used to control for potential confounders that may explain variation in the observed outcomes other than the program or programs of interest.

Of the data sources listed in Table 3, only two fit the requirements for the first type of observational data, with measures of program participation, relevant outcomes, and the characteristics of participants and nonparticipants. The 1992 CBO survey contains information about utilization of major forms of business assistance and the sponsor for that assistance (federal government, state government, or private). The CBO also provides performance information on the associated small business, including sales, profits, employment, payroll, and survival. Various characteristics of the firms and their owners are also included. The sample coverage is nationwide and includes state identifiers. The main drawback of these data is that they do not measure participation in specific small business assistance programs such as those listed in Table 1. This may be less of a concern to the extent that there is multiple program participation and it is more realistic to evaluate the collective effects of small business assistance programs rather than their separate impacts. The absence of panel data or repeated cross-

sections also limits the ability to control for confounding factors. With only state geographic identifiers, an analysis of program impacts at a more local level would not be possible.¹⁵

More promising is the Panel Study of Entrepreneurial Dynamics (PSED), which asked respondents detailed questions about participation in start-up business assistance programs, including contact, type of program, program sponsor, location, services, hours spent, and satisfaction. The data also include business performance measures (e.g. sales and employment), along with characteristics of the firms and the business owners. As a panel data set with geographical identifiers down to the state and county level, the PSED offers the opportunity for analysis utilizing variation over time and space. With more specificity about the types of programs the business owner participated in, it may be possible to focus on specific programs or program types. Methods to correct for selection bias could include the use of instrumental variables, as well as panel data techniques (e.g., fixed or random effects).

The remaining data sources described in Table 3 meet the requirements for the second type of observational data: they do not have program participation information but they do offer variation in business or labor market outcomes over time (panel data) and location. All eight sources have geographic identifiers below the state level, in some cases at the county level and in others for a finer level of geography (e.g., metropolitan statistical areas (MSAs)). By matching measures of program availability and services (e.g., existence in a location, staffing level, or services offered) at the local level for programs in Table 1 to the data sources in Table 3, it would be possible to examine the relationship between small business performance outcomes or employment outcomes and these program measures, controlling for either the characteristics of

¹⁵ For example, one strategy would be to construct measures at the local level based on program availability to serve as instruments for program participation. However, such measures could only be constructed at the state level using the CBO which would not provide much variation in a single cross-section.

business owners or workers. Panel data techniques could be used to control for confounding factors (e.g., fixed or random effects). Among the data sources listed in Table 3, this approach is likely to be most fruitful with data sources that have larger sample sizes and finer levels of geographic identifiers, such as the National Establishment Time-Series Database and the Longitudinal Establishment and Enterprise Microdata.

V. CONCLUSION

Small business assistance programs are potentially a significant force in the promotion of entrepreneurship in the United States. The programs have attracted hundreds of millions of dollars of federal and private funding. They provide various services to small business owners, including business training, technical assistance, financing services, grants, and special services, where these services are available on a universal basis or targeted to particular population groups or types of businesses. The investment in these programs suggests it would be worthwhile to know whether they meet their intended objectives. Policymakers and program implementers would also benefit from knowing what program features are most effective and who benefits from program participation. At the same time, the diversity of programs, the range of program participants served, and the likely importance of the local context, present a challenge for fully understanding what works, for whom, and in what setting.

Our literature review shows that research on small business assistance programs lags far behind the proliferation of the programs themselves. In particular, the quality of existing evaluations in terms of their ability to measure the casual effects of programs on business outcomes is, in many cases, unsatisfactory. There is a paucity of studies using the most rigorous designs such as experimental or well-designed quasi-experimental methods. While those studies using weaker designs will not necessarily produce biased results, it is a very real possibility that

the inability to control for the selectivity of program participants generates more favorable results than what would be found with more rigorous methods. Moreover, much of the evaluation literature has focused on one particular program out of the array of major programs we identified, not to mention the hundreds of smaller programs that serve microenterprises.

Researchers who seek to advance our understanding of the effects of small business assistance programs must contend with the limitations of existing data. While further investment in randomized control trials would have a payoff in terms of expanding the number of scientifically sound evaluations, that approach will not be appropriate in all cases such as large scale programs that are already widely available. Instead, our assessment is that there are other data sources that could be exploited using rigorous non-experimental methods to advance our understanding of specific programs or types of programs. Such an investment will serve to either confirm the evidence from existing studies or illustrate the importance of accounting for potential biases associated with weaker designs. Either way, policymakers and program implementers will benefit from having a deeper knowledge base to draw on.

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Table 1—Small Business Assistance Programs in the United States

Name [Starting Year]	Objective	Eligible Participants	Numbers Served ¹	Funding Sources [Funding Level ²]	Geographic Coverage ³	Program Variation
a. Business Assistance Only						
Self-Employment Assistance Program (SEA) [between 1995 and 1999, varying by state]	To enable unemployed workers to start their own small businesses through business assistance, usually provided through an SBDC	Unemployment Insurance claimants	Participation varies by state ⁴	UI administrative expenses, WIA grants, and other state funding [Varies by program ⁵]	DE, ME, MD, NJ, NY, OR, PA, and CA (terminated)	Location and time
Service Corps of Retired Executives (SCORE) [1964]	To educate business owners and assist the formation, growth and success of small businesses through onsite and online assistance	Anyone who wants to start or improve a small business	308,710 clients	SBA [\$16.9 M]	U.S. (390 chapters & 800 locations)	Location and time
SBA 7(j) Program [authorized by Small Business Act 1953]	To provide business development assistance to socially and economically disadvantaged businesses	Disadvantaged small businesses	2,317 small businesses	SBA [\$2.3 M]	U.S.	Number of clients by location and time
Small Business Development Center (SBDC) [1977]	To stimulate economic growth by assisting small businesses with startup and ongoing development	Anyone who wants to start/improve a small business	1.25 million clients (FY05)	SBA and state/local match [\$103 M (federal)]	U.S.	Location and time
Small Business Institute (SBI) [1972]	To strengthen the small business sector, provide entrepreneurship education, and support economic development	Small business owners willing to receive student consulting	n.a.	Partial funding from SBA during 1972-1995; since 1996, independent of SBA with various self-supports [n.a.]	U.S. (nearly 134 participating universities and colleges)	Location and time
Urban Entrepreneurship Partnership (UEP) [2004]	To foster business development in historically neglected and economically underserved urban areas through business assistance	Minority business owners	n.a.	Participating public and private organizations [n.a.]	Pilots in Kansas City, Atlanta, Cincinnati, Cleveland, Jacksonville, Milwaukee, Baltimore, and New Orleans	Location and time
Women's Business Center (WBC) Program [1989]	To provide business assistance to promote the growth of women-owned businesses	New and nascent women business owners, especially from socially and economically disadvantaged groups	129,373 clients	SBA and private match [\$22 M (federal)]	U.S. (99 centers in 2006)	Location and time

Table 1—Small Business Assistance Programs in the United States, Continued

Name [Starting Year]	Objective	Eligible Participants	Numbers Served ¹	Funding Sources [Funding Level ²]	Geographic Coverage ³	Program Variation
b. Loan Supply Only						
SBA 7(a) Loan Program, authorized by Small Business Act [1953]	To provide small businesses with access to credit (up to \$2M) to enable their formation and viability	Small businesses that are not be eligible for business loans through normal lending channels	80,303 small businesses, 90,483 new loans	SBA ⁶ [\$72.5 M ⁶]	U.S.	Number of loans by location and time
SBA 504 Loan Program [1980]	To promote economic growth within a community by providing a financing mechanism for growing businesses	Growing small businesses who need long-term, fixed-rate financing for major fixed assets	7,569 small businesses, 8,162 new loans	SBA ⁶ [\$21.4 M ⁶]	U.S.	Number of loans by location and time
c. Grant Only						
Small Business Innovation Research (SBIR) Program [1982]	To provide grants to strengthen and expand the competitiveness of small high technology businesses	Small technology- oriented businesses	4,638 Phase I awards and 2,013 Phase II awards (FY 04)	External R&D set-asides from 11 federal agencies [\$ 2 B (FY04)]	U.S.	Number of awards by location and time
Small Business Technology Transfer Program (STTR) [1994]	To strengthen the competitiveness of small high technology businesses through grants for partnerships with non-profit research institutions	Small technology- oriented businesses	614 Phase I awards and 195 Phase II awards (FY 04)	External R&D set-asides from 5 federal agencies [\$198 M (FY04)]	U.S.	Number of awards by location and time
d. Contracting Service Only						
SBA HUBZone Empowerment Contracting Program [1997]	To encourage economic development in historically underutilized business zones through contracting set asides	Small business in historically underutilized business zone	FY05: 4,900 small businesses (value of federal contract: \$6.1 billion)	SBA [\$7.5 M]	U.S. (designated areas only)	Location and time
e. Business Assistance and Contracting Service						
SBA 8(a) Program [authorized by Small Business Act 1953]	To improve the performance and viability of disadvantaged small businesses through business assistance and contracting set asides	Small businesses owned by socially and economically disadvantaged groups	9,600 small businesses	SBA [\$29.6 M]	U.S.	Number of clients by location and time

Table 1—Small Business Assistance Programs in the United States, *Continued*

Name [Starting Year]	Objective	Eligible Participants	Numbers Served ¹	Funding Sources [Funding Level ²]	Geographic Coverage ³	Program Variation
f. Business Assistance and Loan Supply						
Project GATE (Growing America Through Entrepreneurship) [2003]	To provide small businesses with access to credit (through SBA microloans) and assistance to enable their formation and viability	Anyone who wants start/improve a small business (subject to random assignment)	2097 (out of 4201) applicants were assigned to treatment (2003-05); varies by sites ⁷	US Department of Labor [\$9 M over the 5 years]	PA, MN, and ME ⁸	Location and time
SBA Microloan Program [1994]	To serve the growth/capital needs of America's small businesses through business assistance and loans (up to \$35K)	Small businesses (especially from disadvantaged groups) that are not eligible for an SBA guaranteed loan	2,395 small businesses, 2,395 new loan	SBA ⁶ [\$15.9 M ⁶]	U.S.	Number of loans by location and time
Small Business Investment Company (SBIC) Program [1958]	To energize local small business creation and help create, support, and expand small businesses through assistance and loans financed by private investors and SBA guarantees	Existing small businesses that need funds	1,488 small businesses	SBA ⁶ [\$15.2 M ⁶]	U.S.	Amount of investment by location and time

SOURCES: Authors' tabulations based on information collected from various sources, including but not limited to the official websites of SBA, SCORE, DOL, SBI, UEP and other related websites; and program documents and reports including U.S. SBA (2007), SBA Office of Advocacy (2006), Bellotti et al. (2006), Godwyn et al. (2005), and Kosanovich et al.

(2001). Information about SBA program funding levels and participants served are from U.S. SBA (2007).

NOTE: n.a. = not available.

¹ As of FY06, unless specified otherwise.

² As of FY06, unless specified otherwise. M stands for million; B stands for billion.

³ "U.S." indicates all U.S. states, District of Columbia and some of the U.S. territories, unless specified otherwise.

⁴ NY SEA (the largest one) has over 5000 participants in period 1996-99; while DE SEA has only 24.

⁵ PA program has a funding of \$1.46 million in 1999; while DE program only cost \$1,054 through the end of 1999.

⁶ Funding for program operations only.

⁷ Minneapolis (837) and Philadelphia (602) site has the most applicants.

⁸ Five sites in three states: Philadelphia, Pennsylvania; Pittsburgh, Pennsylvania; Minneapolis/St. Paul, Minnesota; Northeast Minnesota; and Maine.

Table 2—Studies Evaluating Small Business Assistance Programs in the United States

Study	Program	Data ¹	Matched Group	Program Variable ²	Outcomes	Covariates	Findings
a. Random Assignment							
Benus (1994)	WA & MA UI SED ³	Participant Tracking System & follow-up survey (N=1,653)	Y (Control group)	Random assignment	Employment outcomes ⁴	Demographics, prior employment, unemployment rate, site dummies, etc.	Positive effect on employment outcomes
b. Econometric Analysis							
Bates (1995)	General	CBO Database ⁵ (N=78,147)	N (Respondents include both clients and non-clients)	Whether assisted by local aids/multiple aids	Survival	Demographics, labor input, capital, time start business, industry	Effect of government assistance is different on performance of non-minority-owned and minority-owned businesses
Craig, Jackson, and Thomson (2007)	SBA 7(a)	7(a) loan data; economic conditions data; deposit data from FDIC (N=2,359 local markets)	N	Annual dollar amount of SBA 7(a) loans of local market ⁶	Local labor market employment rate	Characteristics of local market ⁷	Positive effect on local market employment
Chrisman and McMullen (2004)	SBDC	1994/1996/1998 survey of clients of PA SBDC and 2001 follow-up (N=159)	N	Number of hours spent on SBDC counseling	Survival rate	Demographics, firm size, industry	Positive and curvilinear effect on business performance
Chrisman, McMullen and Hall (2005)	SBDC	1994/1996/1998 survey of clients of PA SBDC and 2001 follow-up (N=159)	N	Number of hours spent on SBDC counseling	Sales and employment	Demographics, industry, geographic scope	Positive and curvilinear effect on business performance
Lerner (1996)	SBIR	Survey of awardees by GAO ⁸ in 1986 and a 1988 follow-up (N=541 awardees and 594 from control sample)	Y (by industry and employment)	Whether awarded	Employment and sales	Major business characteristics ⁹	Positive effect on business performance (with strong location effect)

Table 2—Studies Evaluating Small Business Assistance Programs in the United States, *Continued*

Study	Program	Data ¹	Matched Group	Program Variable ²	Outcomes	Covariates	Findings
b. Econometric Analysis, <i>Continued</i>							
Sanders (2002)	MAP	SELP ¹⁰ (participant group); PSID (matching group) (totally N=431)	Y ¹¹ (by key demographic factors)	Program Participation	Household income and poverty status	Demographics and family composition	No effect on household income and poverty status
Weinsten, Nicholls, and Seaton (1992)	SBI	Census of local SBI clients during 1985-1989 (N=57)	N	Program Participation	Client evaluation	Business knowledge, practicality of recommendations and etc.	Positive client evaluation
c. Mean Comparison							
Chrisman (1999)	SBDC	1994 national survey of clients (N=2,025)	N	Program Participation	Starting rate, employment, sales	n.a.	Positive effect of business performance (with location effect)
Chrisman et al. (1985)	SBDC	1982 survey of clients (N=103)	N	Program Participation	Sales, employment, profit and , tax revenue generated	n.a.	Positive effect of business performance
Chrisman et al. (1990)	SBDC	Survey of clients of a state SBDC (N=188)	N	Program Participation	Type and amount of assistance, perceived service value and start-up propensity	n.a.	No gender difference in value and effect of program
Chrisman and Carsrud (1991)	SBDC	Survey of clients of a state SDBC (N=139)	N	Program Participation	Type and amount of assistance, perceived service value and start-up propensity	n.a.	No racial/ethnic difference in value and effect of program
Chrisman, Gatewood, and Donlevy (2002)	SBDC	1994 national survey of SBDC clients (N=8,703)	N	Program Participation	Starting rate, employment, sales, perceived monetary value of service, client evaluation	n.a.	No urban/rural difference in terms of the effect of program on business performance

Table 2—Studies Evaluating Small Business Assistance Programs in the United States, *Continued*

Study	Program	Data ¹	Matched Group	Program Variable ²	Outcomes	Covariates	Findings
<i>c. Mean Comparison, Continued</i>							
Chrisman, Hoy, and Robinson (1987)	SBDC	1984 survey of pre-venture clients (N=135)	N	Program Participation	Client evaluation, starting/survival rate, sales, employment, tax revenue generated	n.a.	Positive effect of pre-venture business performance
Chrisman and Katrishen (1994)	SBDC	1991 national survey of clients (N=1,820)	N	Program Participation	Sales, employment, tax revenue generated	n.a.	Positive effect of business performance
Chrisman and Leslie (1989)	SBDC	Survey of clients from a state SBDC (N=76)	N	Program Participation	Sales growth, profit added	n.a.	Clients benefit more from administrative and operating assistance than from strategic assistance; a comprehensive approach is the most useful
Chrisman and McMullen (2000)	SBDC	1992 & 1994 survey of clients of a state SBDC (N=169)	N	Program Participation	Client evaluation, survival rate, time to break even, starting subsequent business, business size (employees, sales) and incidents of innovations	n.a.	Positive effect of business performance
Pelham (1985)	SBDC	Three surveys of clients of Iowa SBDC (N=766)	N	Program Participation	Client evaluation, employment, sales, tax revenue generated	n.a.	Positive effect of business performance
Robinson (1982)	SBDC	A sample of assisted firms (N=101)	Y (by business type, sales and employees)	Program Participation	Profitability, sales, productivity, employment	n.a.	Positive effect of business performance

Table 2—Studies Evaluating Small Business Assistance Programs in the United States, *Continued*

Study	Program	Data ¹	Matched Group	Program Variable ²	Outcomes	Covariates	Findings
<i>c. Mean Comparison, Continued</i>							
Solomon and Weaver (1983)	SBI	National pilot survey of economic impact of SBI program (N=189)	N	Program Participation	Employment, perceived financial changes, sales, profit, net worth, owner compensation	n.a.	Positive effect on business performance; cost and appropriateness were top reasons for not implementing recommendations; consulting expertise is also important
<i>d. Descriptive Analysis</i>							
Nahavandi and Chesteen (1988)	SBDC	1986 survey of clients from a local SBDC (N=106)	N	Program Participation	Client satisfaction, impact on sales, profit, net worth and employees	n.a.	Clients highly satisfied with assistance received; lack of necessity and consultant expertise are the primary reason for not implementing recommendations
Rocha and Khan (1984)	SBI	Survey of a local SBI (N=17)	N	Program Participation	Implementation, type and degree of impact	n.a.	Positive effect on business operations; cost and riskiness are the top reasons for not implementing recommendations

SOURCES: Authors' tabulations based on sources cited in first column.

NOTE: n.a. = not applicable.

¹ Sample size shown in parenthesis.

² Indicates the dimension of program that is analyzed.

³ The Washington State And Massachusetts UI Self-Employment Demonstrations.

⁴ The likelihood of state into self-employment, the timing of this entry, the likelihood of remaining self-employed, and the impact on total employment.

⁵ U.S. Bureau of Census Characteristics of Business Owners Database.

⁶ Inflation-adjusted and scaled by average population in local market.

⁷ Including market liquidity, per capita income of local market, per capita bank deposit, and deposit market Herfindahl index.

⁸ U.S. Government Accountability Office.

⁹ Including measure of venture activity, average industry market-to-book ratio, ratio of tangible to total assets, ratio of R&D to sales, age of firm, and whether venture financing.

¹⁰ Self-Employment Learning Project (SELP) from Aspen Institute.

¹¹ Two matched groups: non-participating self-employed and non-self-employed.

Table 3—Data Sources for Evaluating Small Business Assistance Programs in the United States

Data	Subject	Panel	Years Available	Sample Size	Response Rate	Outcomes	Covariates	Source of Variation
a. For Analysis of Business Outcomes								
1992 Characteristics of Business Owners (CBO) ¹	U.S. business owners and their businesses	N	1992	62% of the 78,134 firm questionnaires returned, 59% of the 116,557 owner questionnaires returned	Around 60%	Sales, profit, employment, payroll	Characteristics of businesses and owners	Program participation, ² location (national with state codes)
2002 Survey of Business Owners (SBO) ¹	U.S. business owners	N	2002	2.3 million businesses	81%	Sales, receipt, payroll, employment	Characteristics of businesses and owners	Location (national with state, MSA, county, and place code)
Kauffman Firm Survey	New U.S. businesses	Y	Baseline (05-06), first-follow-up (06-07), second follow-up (ongoing)	Baseline: 4,928 businesses; first follow-up: 3,998 (369 out of business)	Baseline: 43%; first follow-up: 88%	Sales, profit, employment, survival	Characteristics of businesses and owners	Location (national with state and MSA code), time
Longitudinal Business Database	U.S. businesses with paid employees	Y	Every year from 1976 (ongoing)	24 million unique businesses covered (annual size varies)	n.a.	Payroll, employment, survival	Characteristics of businesses	Location (national with county code), time
National Establishment Time-Series Database ³	U.S. businesses	Y	Every year from 1990 (ongoing)	30 million unique businesses covered (annual size varies)	n.a.	Employment, sales, growth relative to peers, survival	Characteristics of businesses	Location (national with state, county, MSA, city, and zip code), time
Longitudinal Establishment and Enterprise Microdata ⁴	U.S. businesses	Y	Every year from 1988 (ongoing)	n.a.	n.a.	Payroll, Employment	Standard Industrial Classification, length in business	Location (national with state, MSA, county, and place code), time
Panel Study of Entrepreneurial Dynamics (PSED)	U.S. nascent entrepreneurs and their businesses	Y	PSED I has 4 waves; PSED II has 3 waves (both ongoing) ⁵	PSED I: 830 entrepreneurs; PSED II: 1,214 entrepreneurs	PSED I: 77%; PSED II: 80%	Employment, sales, net worth of business, survival	Characteristics of businesses and owners	Program participation, ⁶ location (national with state and county code), time

Table 3—Data Sources for Evaluating Small Business Assistance Programs in the United States, *Continued*

Data	Subject	Panel	Years Available	Sample size	Response Rate	Outcomes	Covariates	Source of Variation
b. For Analysis of Employment Outcomes								
Monthly Current Population Survey (CPS)	U.S. population	Y ⁷	Monthly microdata from 1968 (ongoing)	About 50,000 households	Around 94% (Dec. 1996)	Employment outcomes ⁴	Demographics, employment characteristics, income (March only), etc.	Location (national with state and county code), time
National Longitudinal Survey of Youth (NLSY) 1979 and 1997	U.S. youth population	Y	NLSY 79: annually 1979-1994, biennially thereafter NLSY 97: annually from 1997 (both ongoing)	NLSY 79: 12,686 individuals; NLSY 97: 8,984 individuals	NLSY 79: between 80% to above 90%; NLSY 97: above 90%	Employment outcomes ⁸	Demographics, family composition, income and assets, etc.	Location (national with geocode-restricted access), time
Panel Study of Income Dynamics (PSID)	U.S. families and individuals	Y	Annually 1968-1996, biennially thereafter (ongoing)	7,790 families (2003)	Ranged between 97% and 99%, for most years	Employment outcomes ⁸	Demographics, family composition, income and assets, etc.	Location (national with geocode-restricted access), time

SOURCES: Authors' tabulations based on documentation for data sources listed in the first column.

NOTE: n.a. = not available.

¹ 1992 CBO and 2002 SBO are both part of the Economic Census of their respective survey years. The publicly available SBO documentation is not complete. The information about SBO is based on those publicly available.

² Including information about utilization of major forms of government assistance and the sources/sponsor type of assistance used.

³ Commercial data by Walls & Associates.

⁴ Confidential data located at Center for Economic Studies of U.S. Census Bureau.

⁵ Two cohorts available. PSED I began screening in 1998-2000; PSED II began screening in 2005-2006.

⁶ PSED has detailed questions about participation of start-up assistance program (contact, type of program, program sponsor, location/state, services, hours spent, satisfaction).

⁷ Households are in the survey for 4 consecutive months, out for 8, and then return for another 4 months before leaving the sample permanently.

⁸ Including class of worker (self-employment status), sources of income (including self-employment income), receipt of UI benefits, and duration of unemployment.