



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. 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. 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 and critically examines the existing research on the effect of those programs. We find that business and self-employment assistance programs are heterogeneous in important dimensions. 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.

Keywords: Small Business Assistance, Public Programs, Evaluation.

1. Introduction

Small business activity rests on a 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, that is, new business owners, in the years 1996 to 2005 fluctuated around 0.30 percent (Fairlie, 2006).

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). Moreover, very small businesses 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).

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. 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 we know very little about the effects of these small business assistance programs, the features that make programs effective, and who benefits from the programs because no comprehensive study of this topic has been made. This study aims to fill this gap 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.

2. 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).

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, 2009; U.S. SBA, 2010; and SBA Office of Advocacy, 2006).

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	360,559 clients	SBA [\$10.6 M]	U.S. (350 chapters)	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	2,021 small businesses	SBA [\$4.8 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	558,487 clients	SBA and state/local match [\$111 M (federal)]	U.S. (about 900 centers)	Location and time

Table 1: Small Business Assistance Programs in the United States

Name [Starting Year]	Objective	Eligible Participants	Numbers Served¹	Funding Sources [Funding Level²]	Geographic Coverage³	Program Variation
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. (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	Over 1,200 clients since inception	Participating public and private organizations [Over \$7 M invested since inception]	Kansas City (MO), Detroit (MI), Baton Rouge (LA), Hammond (LA), and New Orleans (LA)	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	159,879 clients	SBA and private match [\$23 M (federal)]	U.S. (about 100 centers)	Location and time
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	59,019 small businesses, 64,514 new loans	SBA [\$86.3 M ⁶] [\$12.7 B ⁷]	U.S.	Number of loans by location and time

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
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	8,084 small businesses, 8,630 new loans	SBA [\$25.1 M ⁶] [\$5.3 B ⁷]	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	3,218 small businesses (value of federal contract: \$10.2 billion)	SBA [\$8.6 M]	U.S. (designated areas only)	Location and time

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
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	9,122 small businesses	SBA [\$51.8 M]	U.S.	Number of clients by location and time
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 ⁸	US Department of Labor [\$9 M over the 5 years]	PA, MN, and ME ⁹	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	2,682 small businesses, 2,682 new loan	SBA [\$18.4 M ⁶] [\$20 M ⁷]	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	1,905 small businesses	SBA [\$17.1 M ⁶] [\$1.03 B ⁷]	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 (2009, 2010), 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 (2009, 2010).

NOTE: n.a. = not available.

¹ As of FY08, unless specified otherwise.

² As of FY08, unless specified otherwise. M stands for million; B stands for billion. Funding amounts are for program operations only, except for loan or grant services. The dollar value of loans approved is listed separately for loan programs. Funding for grant programs indicates the dollar value of grants provided. Funding amounts do not always include administrative costs or other expenses like loan defaults.

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 Dollar value of loans/financing approved.

⁸ Minneapolis (837) and Philadelphia (602) site has the most applicants.

⁹ Five sites in three states: Philadelphia, Pennsylvania; Pittsburgh, Pennsylvania; Minneapolis/St. Paul, Minnesota; Northeast Minnesota; and Maine.

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 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.

2.1. 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, the 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), the SBA provides most small business loans (see panels (b) and (f)). With a loan portfolio of tens of

billion of dollars, the 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 the SBA, provide funds from private investors and SBA debentures, as well as relevant technical assistance, to eligible small firms (U.S. SBA, 2009).

The Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTP) are the largest small business grant programs (coordinated by the 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.

The 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.

2.2. 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 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 the 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).

2.3. Funding from Public and Private Sources

Most of the programs listed in Table 1 are public assistance programs funded by federal and state governments.³ Several large and influential programs are administered and funded entirely by the SBA, while others are funded by the SBA

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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.
 3. In this section, we do not attempt to generate an aggregate estimate of total public funds expended in support of the programs in Table 1. This is because consistent and complete information on program costs is not readily available for the full array of programs we include in Table 1. For example, we do not have access to administrative costs for grant programs, the servicing cost and default cost for loan programs and annual cost for smaller programs like SBI and UEP. While an estimate of the full public sector commitment to these programs would be valuable, it is beyond the scope of this paper to attempt to gather the relevant information, if it exists. Suffice it to say that the public sector commitment in the form of business assistance and grants is in the hundreds of millions of dollars, while the loans made available are in the billions.

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.

Recently, the SBA has expanded its current programs through congressional appropriations designed to help small businesses that may have been adversely affected by the global financial crisis. The U.S. Congress appropriated over \$1 billion to the SBA as a part of the 2009 American Recovery and Reinvestment Act. This short-term expansion allowed the SBA to temporarily eliminate fees for borrowers in the 7(a) and 504 loan programs, raise the percent of the guarantee on the 7(a) loans, and expand the Microloan and Small Business Investment Company programs.⁴

2.4. 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.⁵ 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

4. Relevant information is available at http://www.sba.gov/idc/groups/public/documents/sba_homepage/sba_rcvry_aara_imp_factsheet.pdf. Accessed April, 2010.

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

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 half 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 the loan programs, operating with nearly twice the budget and six 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 listed 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 states 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 about 100 centers across the country while SBDC has 900 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.

2.5. 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.

2.6. 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 696 such programs, unevenly distributed across the country. 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 \$500,000 and average staff size of 4 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) 2008, MAPs provided assistance to an estimated 274,128 individuals and an estimated 13,067 loans totaling \$144 million were made.⁶

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.⁷ 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).

3. 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

6. MAPs statistics cited in this paragraph were obtained from Aspen Institute (2009).

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

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.⁸

To conduct the literature search, we used academic databases (namely JSTOR, EconLit and the Social Sciences Citation Index) and a comprehensive set of keywords to find published articles.⁹ Then, we determined whether each article found was an evaluation study of a small business assistance program in the United States. In addition, we checked the literature cited by these relevant articles against our current list and added any new relevant studies. 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. The only exception is an evaluation report of Project GATE prepared by contractors hired by the program (Benus et al., 2008). We include this report because Project GATE uses a random experimental design and therefore reveals a causal relationship between program participation 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

8. In discussing the U.S. literature in this section, however, we do highlight relevant studies from evaluations of self-employment assistance programs in other countries to showcase the rigorous methods that can be used in such evaluations.

9. Specifically, three groups of keywords were used. The first group consists of keywords related to small businesses or entrepreneurship: small (new) business (firm), self-employment, and entrepreneur. The second group includes keywords related to the self-employment assistance programs or services of interest: assistance, counseling, consulting, loan, and program. The third group pertains to research study terms: evaluate, assess, effect, and impact. Keywords from the first and second groups were used in all possible combinations. Keywords from the third group were then used as a filter to further narrow the list of results when appropriate. In addition to these keywords, we also used the name of the programs identified in Table 1 as keywords for the literature search.

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: 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
Benus et al. (2008)	Project GATE	Administrative data & follow-up survey (N=1,516)	Y (Control Group)	Random assignment	Business ownership, employment, earnings, unemployment insurance receipt, public assistance receipt	Demographics, prior employment, health insurance, site dummies, UI benefit history, etc.	Positive effect on business ownership; negative effect on total earnings; no effect on employment rates; mixed effects on use of public programs
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 et al. (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

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

Study	Program	Data ¹	Matched Group	Program Variable ²	Outcomes	Covariates	Findings
Chrisman et al. (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)
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
Weinstein et al. (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 on 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 on 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

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

Study	Program	Data ¹	Matched Group	Program Variable ²	Outcomes	Covariates	Findings
Chrisman and Carsrud (1991)	SBDC	Survey of clients of a state SBDC (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 et al. (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
Chrisman et al. (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 on 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 on 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 on business performance

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

Study	Program	Data ¹	Matched Group	Program Variable ²	Outcomes	Covariates	Findings
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 on 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 on business performance
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
d. Descriptive Analysis							
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 entry 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 2 includes 23 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.

3.1. 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) and Benus et al. (2008) are the only two studies to date that use an experimental methodology. Benus (1994) evaluates 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). Benus et al. (2008) studies the impact of services provided by Project GATE on the business ownership and employment outcomes of participants.

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 et al., 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 et al. (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 et al. (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).

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. Sanders (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 et al. (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 et al., 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.

3.2. 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.¹⁰ 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.¹¹ In addition, the data collection efforts often

10. 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.

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 et al., 2005).¹²

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 et al., 2002). However, as with the local data, even the national data sources are cross-sectional.¹³ 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.¹⁴

3.3. 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 et al. (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 et al., 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 objective measures, many studies use business survival, sales revenue or growth and employment level or growth (Robinson, 1982; Solomon and Weaver, 1983; Chrisman et al., 1985; Chrisman et al., 1987; Chrisman and Leslie, 1989; Chrisman and Katrishen, 1994; Lerner, 1996; Chrisman, 1999;

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

12. A typical response rate for such surveys is between 20 percent and 30 percent. For example, Chrisman et al. (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.

13. 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.

14. With few exceptions (e.g. Chrisman et al., 2005), most survey data measure only short-term effect of assistance program (e.g. one year after assistance).

Chrisman et al., 2002; Chrisman et al., 2005). A few studies use all three types of measures (Chrisman et al., 1987; Chrisman et al., 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. Benus et al. (2008) investigates the program's impact on subsequent business ownership, total employment and earnings of the participants. Sanders (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.

3.4. 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 23 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 et al., 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.¹⁵

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

15. 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.

(Chrisman et al., 2005). Although Chrisman et al. (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 subgroups, although differential selectivity in who participates across the subgroups examined may bias the estimated differential. Chrisman et al. (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 four 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 RCT by Benus et al. (2008) shows that the assistance services provided by Project GATE raised the business ownership rate by 6 percentage points by the third quarter after randomization (43 versus 37 percent), but that effect declined to just 3 percentage points by the sixth quarter after random assignment (44 versus 41 percent). Moreover, there was no effect on the employment rate of the participants within the 18-month follow-up, either in self-employment or work for an employer. In addition, there was a significant negative effect on total

earnings because wage and salary earnings declined in the treatment group relative to the controls. The treatment group also experienced more time on unemployment insurance, although their receipt of other public assistance benefits was no different. The evaluation points out that subjects in the control group were not prevented from receiving other self-employment assistance services, with 70 percent receiving such services. Therefore, the program effects should not be interpreted as the contrast between receiving Project GATE services and receiving no self-employment assistance altogether, but rather the benefit of receiving the Project GATE services relative to those services typically available.

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) reported 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 et al. (2007) reported 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.

3.5. Need for More Rigorous Research

In a study of small business policy in the United Kingdom, Curran (2000) concludes that the research lags far behind the growth of the programs. More

recently, Lerner (2009) cites a lack of formal evaluative mechanism as one of the reasons that many public venture capital programs continue to operate without proof of effectiveness in the United States and abroad. Despite their policy importance, small business assistance programs in the United States have not been evaluated using the most rigorous methods to ensure that causal program effects are being measured. Just two of the studies we captured in our scan of the literature were 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. Based on the studies with the strongest methodology, the U.S. literature to date provides, at best, mixed evidence of the effects of self-employment assistance programs. 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, that study assessed two demonstration projects in the 1990s in separate states that may not be generalizable to current programs or other states. The experimental study of Project GATE is more current but shows a modest, short-lived effect of providing loans and technical assistance on business ownership. While there was no effect on individual employment rates, total earnings declined, and the effect on self-sufficiency (i.e., use of public programs) was mixed. Other rigorous non-experimental 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 less rigorous 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. Instead, the more reliable methods show no effect or favorable effects that tend to be modest. 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.

While the focus of this paper is the U.S. experience, we briefly highlight the evidence from evaluation studies of small business assistance programs in other countries that use more rigorous methodologies. Without attempting to provide a comprehensive review of the relevant literature in other countries, this discussion does demonstrate how evaluators can improve the evaluation of U.S. programs. Our discussion draws on a recent comprehensive survey conducted by the Organisation for Economic Co-Operation and Development (OECD, 2007) of

evaluation studies for a variety of small business assistance programs around the world, organized by rigor of methodology used following a framework described by Storey (2002). We also identified several additional evaluations of small business programs from other countries that have a similar quality in terms of methodological sophistication.

Only a few of the studies in the OECD's (2007) review addressed the selection bias issue directly using econometric methods.¹⁶ Specifically, several studies used the two-step Heckman selection model to first model the selection process directly and then evaluate the effect of the treatment (Roper and Hewitt-Dundas, 2001; Mole et al., 2006; Wren and Storey, 2002; Hart et al., 2008). Three of these studies found positive program effects on employment growth (Roper and Hewitt-Dundas, 2001; Mole et al., 2006; Hart et al., 2008), while two found no effect on sales (Roper and Hewitt-Dundas, 2001; Mole et al., 2006). Wren and Storey (2002) found marketing consultancy services improved the long-run survival rate and sales of medium-sized small businesses, but providing the services had no impact on smaller businesses.

Several other studies outside the United States matched treatment and control groups using the propensity score methodology. The World Bank (2007) evaluated three of the largest public small- and medium-enterprise programs in Mexico and found no evidence of improved business performance—namely on value-added, employment, wages, or export orientation—attributable to the programs. Rotger et al. (2009) reported that the Denmark North Jutland Entrepreneurial Network, a program that provides advisory assistance for business startups, produced a positive impact on the performance of its clients—specifically survival, size, and growth, but the impact was heterogeneous. The New Zealand Ministry of Economic Development (2009) evaluated the Growth Services Range program, a package of grants and services to high potential small firms, and found a significant positive impact on the sales of assisted firms, but no effect on value-added or productivity. While not an evaluation of a specific program, Kusters and Obschonka (2010) studied the effect in Germany of small business assistance services in general and found no evidence of improved start-up performance as measured by initial capital, employment, and credit rating.

These studies from outside the United States demonstrate how rigorous and appropriate econometric methods have been used to evaluate small business assistance programs in the absence of data from randomized experiments and begin to shed light on the range of outcomes affected and the direction and magnitude of those effects. However, given the broad scope of programs studied, the heterogeneity of the environments across countries, and the relatively small

16. In other words, all studies discussed below use the sixth approach defined in Storey (2002), which is the most rigorous methodologies that account for selection bias. We do not comment on the quality of the methodology as employed (e.g. the validity of assumptions made such as identification assumptions).

number of studies, a definitive conclusion regarding the effects of small business assistance programs on relevant outcomes remains illusive.

4. 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 rigorous non-experimental methods that could be used, as they have been in a number of other countries, 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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