

2012

Metro and Non-Metro business Incubators: Similarities and Critical Differences

Randall Jackson

West Virginia University, randall.jackson@mail.wvu.edu

Peter V. Schaeffer

West Virginia University, peter.schaeffer@mail.wvu.edu

Mark Middleton

Follow this and additional works at: https://researchrepository.wvu.edu/rri_pubs



Part of the [Regional Economics Commons](#)

Digital Commons Citation

Jackson, Randall; Schaeffer, Peter V.; and Middleton, Mark, "Metro and Non-Metro business Incubators: Similarities and Critical Differences" (2012). *Regional Research Institute Working Papers*. 5.
https://researchrepository.wvu.edu/rri_pubs/5

This Working Paper is brought to you for free and open access by the Regional Research Institute at The Research Repository @ WVU. It has been accepted for inclusion in Regional Research Institute Working Papers by an authorized administrator of The Research Repository @ WVU. For more information, please contact researchrepository@mail.wvu.edu.

Regional Research Institute

Working Paper Series



Metro and Non-Metro Business Incubators: Similarities and Critical Differences

By: RW Jackson, RRI Director, West Virginia University; PV Schaeffer,
West Virginia University; and M Middleton, Graduate Research Assistant,
West Virginia University

Working Paper Number 2012-03

Website address: rri.wvu.edu

Metro and Non-Metro Business Incubators: Similarities and Critical Differences

Randall W. Jackson*

Peter V. Schaeffer[†]

Mark Middleton[‡]

Abstract

Business incubators often figure prominently into regional economic development and innovation strategies. This paper reports on a recent survey aimed at identifying appropriate methods for the evaluation of nonmetropolitan, rural incubator performance. The results draw upon responses from 209 of 719 active U.S. business incubators identified through our research. Roughly one quarter of the respondents were located outside of areas classified as metropolitan. This paper focuses on critical similarities and differences between metropolitan and non-metropolitan business incubators along the dimensions of economic role, function, and effectiveness. The survey and preliminary synthesis of follow-up interviews suggests that an explicit awareness of the functional differences between business incubators in nonmetropolitan regions might enhance their potential for success.

Key words: Business Incubators, Economic Development, Rural Economy

*Director, Regional Research Institute, West Virginia University, 886 Chestnut Ridge Road, PO Box 6825, Morgantown, WV 26506-6825. Phone: 1-304-293-8734 Fax: 1-304-293-6699 email address: Randall.Jackson@mail.wvu.edu

[†]Professor, Agricultural and Resource Economics, West Virginia University

[‡]Graduate Research Assistant, Regional Research Institute, West Virginia University

1 Introduction

Since their inception just over a half-century ago (Adkins 2001, Lewis 2002), business incubators have attracted the attention of policy makers and have often played major roles in the strategies of economic agencies both in many countries and at various governmental levels (Hackett & Dilts 2004, Lalkaka 2003). At one time in the U.S. experience, incubators were in a sense *de rigueur* in the development community, where institutional pressures to conform might well have led to their establishment in some instances. Yet, as public capital available for economic development programs becomes increasingly scarce, concern for the efficiency of incubator investments has grown (Sherman & Chappell 1998, Shearmur & Doloreux 2000, Hackett & Dilts 2008, Yu & Nijkamp 2009, Yu, Stough & Nijkamp 2009).

Concern for ensuring a level playing field for business incubator performance assessment provided a basis for the U.S. Department of Agriculture (USDA) to support a study to identify similarities and critical differences among incubators in metropolitan and non-metropolitan areas in both their operations and operating environments (Cheng et al. 2008, Schaeffer et al. 2011). The USDA funds rural economic development research so that it can better inform and enhance public and private decision-making on economic and policy issues related to rural development. A three-pronged approach forms the basis of the resulting business incubator research project: a business incubator survey, follow-up on-site interviews with a subset of respondents, and a parallel analysis based on primary establishment-level data

maintained by the Center for Economic Studies of the U.S. Bureau of the Census.

The primary focus of this paper is a preliminary summary of the survey responses. Section 2 provides a higher-level overview of the survey, the population, and respondents. Section 3 enumerates the most salient survey results and is followed in Section 4 by some preliminary insights drawn from the follow-up interviews; and Section 5 offers a brief summary.

2 The Survey

The following section reports survey results on several important dimensions. Our research has been focused on differences between metropolitan and non-metropolitan business incubators. For analytical and reporting purposes, we use definitions provided by the U.S. Census Bureau, which classifies counties in accordance with Office of Budget and Management (OMB) guidelines. Areas classified as Metropolitan (Metro) have an urban core population above 50,000 while Micropolitan areas have an urban core population greater than 10,000 but less than 50,000. The Metropolitan and Micropolitan areas represent 93% of the total population in the United States. Roughly one third of all U.S. counties are located in Metropolitan areas, and another 22% of counties are classified as Micropolitan counties. The remaining counties, 43%, are classified as Outside Core Basic Statistical Areas (OCBSA).

The survey was conducted via the Internet during an approximately 3-month period in spring of 2010. From a universe of 719 possible participants,

we received responses from 209, or approximately 29%. Of the respondents, 156 were located in Metropolitan counties, 37 in Micropolitan counties, and 16 in OCBSA. The distribution of respondents across the urban rural continuum closely corresponds to that of the overall population as shown in Table 1 and Figure 1. Although we did send reminders and additional requests for responses to initial non-respondents, we still were able to achieve representative response proportions by regional category without targeting specific geographical regions. Issues related to the geography of U.S. business incubators have been addressed at length elsewhere (Yu, Middleton & Jackson 2009). The geographic distribution of U.S. business incubators is shown in Figure 2 below.

Table 1: Universe and Response Distribution by Category

	Metro	Micro	OCBSA	Totals
Responses	74.6%	17.7%	7.6%	100%
Universe	77.6%	15.0%	7.4%	100%

Figure 1: Universe and Survey Responses by Category

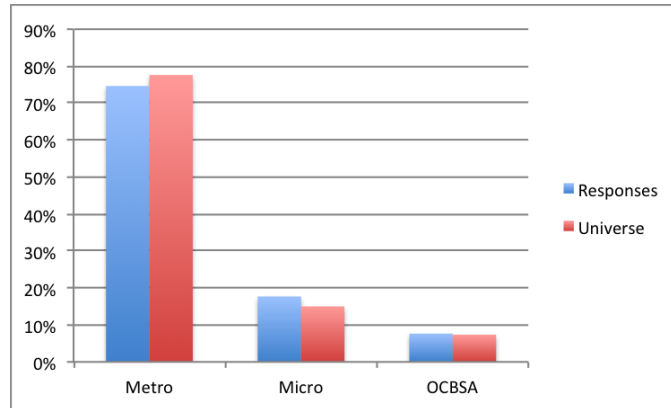


Figure 2: Geographic Distribution of U.S. Business Incubators in Census Regions, States and Counties. Source: Yu, Middleton & Jackson (2009)



Due to the small total number of OCBSA respondents, we maintained the distinctions between the three categories, but for purposes of statistical analysis drew two distinctions: one between Metropolitan and OCBSA business incubators, and one between Metropolitan on the one hand and Micropolitan plus OCBSA on the other. In the presentation that follows, we note relationships where differences were statistically significant at $p < .05$. One asterisk

(*) indicates significant differences between OCBSA and Metro, two asterisks (**) indicate significant differences between OCBSA plus Micropolitan and Metropolitan, and three asterisks (***) indicate significant results for both comparison groups.¹

3 Survey Results

3.1 Years of operation

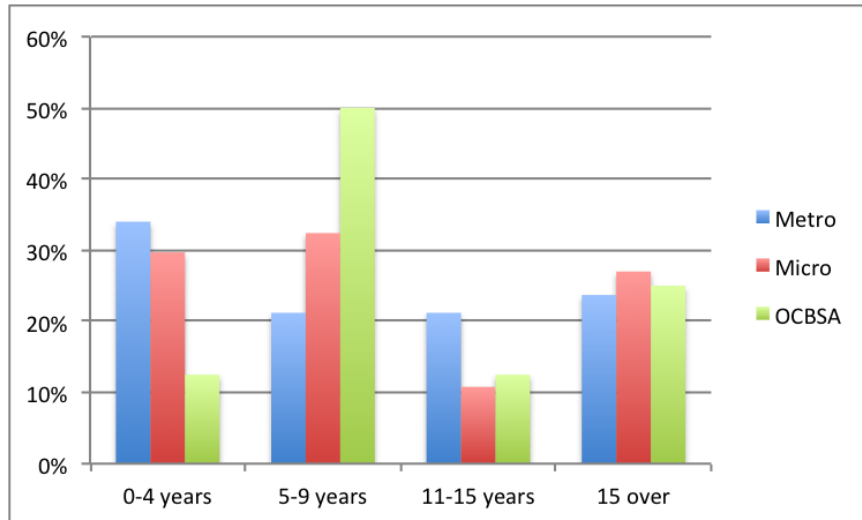
The largest numbers of business incubators in metro areas have been in operation for less than 5 years. For Micropolitan incubators, roughly equal proportions were in the categories of 0 to 4 years and 5 to 9 years. The most striking result, however, is the relative concentration of OCBSA incubators in operation between 5 and 9 years, balanced by roughly 13% of OCBSA incubators in operation less than 5 years. This might reflect reluctance on the part of potential incubator operators to establish business incubators during the economic downturn of the three-year period from 2008 through 2010. The age distribution of incubators is shown in Figure 3.

3.2 Organizational structure and support

The legal structure organization for all 3 geographical categories is predominantly that of “private, not-for-profit,” followed in each case by “public.” A university, college, or technical school assists nearly 56% of business in-

¹Statistical tables are available from the authors upon request.

Figure 3: Age Distribution by Category



cubators in Metropolitan areas, while only 46% of Micropolitan business incubators and 25% of OCBSA incubators receive similar assistance.*** Of those business incubators that receive assistance, the vast majority relies on university knowledge, skill, physical facilities, and or human resources of those institutions.

Whereas almost 85% of all Metro business incubators are associated with either the National Business Incubator Association (NBIA) or a state incubation Association, 25% of OCBSA incubators have no such association.*** The NBIA is the dominant association over all geographical levels. While 61% of Metropolitan and Micropolitan business incubators maintain regular contact with venture capitalists or venture capital firms, only 25% of OCBSA incubators reported such contact.*** No OCBSA incubators, and only 4% of

Metropolitan incubators, reported having received financial venture capital or angel support, although just over 11% of Micropolitan business incubators did receive such support. Just less than 82% of incubators in all three areas report financial support from some level of government.

3.3 Tenants and turnover

Nearly 41% of all Metropolitan incubators reported having had a waiting list of suitable tenants during their operation, while roughly 19% of Micropolitan and OCBSA incubators could make that claim.** As of the time of the survey, more than 40% of Metropolitan and Micropolitan incubators reported having a suitable waiting list, while none of the OCBSA incubators currently had a waiting list.

Fifty-six percent of Metropolitan and 67% of Micropolitan incubators limited the length of time tenants could remain in the business incubator, while fewer than 44% of OCBSA incubators limited tenants' length of stay.* For those incubators enforcing limits in Micropolitan and OCBSA regions, three years is the most common limit whereas limits for Metropolitan business incubators were more varied, with 37% enforcing a three-year limit, 18% enforcing a four-year limit, and 37% enforcing limits of greater than 4 years.²

²Follow-up interviews revealed that some incubators that do not have a formal graduation requirement nonetheless have an implied one since they are increasing the rent they charge as the tenant firm matures.

3.4 Tenant composition

Just under 48% percent of the Metropolitan incubators limit their tenants to firms within certain industry sectors. This percentage falls to 39% for Micropolitan incubators and 37.5% for OCBSA incubators. Forty percent of Metropolitan incubators reported focusing on new business startups, with another 57% focusing on a combination of startups and established firms. Just under 3% of Metropolitan and Micropolitan incubators reported having no focus whatsoever. There was no particular focus for 12.5% of OCBSA incubators.

A slightly higher percentage of Metropolitan incubators, 87%, reported offering basic business services such as a receptionist, dedicated telephones, copying, scanning and faxing. For Micropolitan and OCBSA incubators, this value is closer to 81%. The percentages of business incubators providing advanced business services, such as marketing assistance, financial management, counseling, or management consulting follow a similar trend, with 91.7%, 86.1%, and 81.3% for Metropolitan, Micropolitan, and OCBSA respectively.

3.5 Admissions and graduation

Business incubators in all 3 geographical areas have formal admission requirements, with a larger proportion reporting these requirements in the OCBSA regions than in Metropolitan or Micropolitan regions.* Overall, 62% of business incubators require a formal business plan, and more than half of the

incubators in all 3 geographic regions require that the business plan be approved. In half of the cases in all areas, it is a requirement that the incoming tenant be a company that is ready for operation.

A total of 54% and 58% of Metropolitan and Micropolitan business incubators maintain no specific graduation requirements or a graduation process. This rises to 87.5% in OCBSA incubators. Forty-seven percent of Micropolitan business incubators require tenants to graduate once they reach that standard, compared to 74% for Metropolitan area business incubators.** In response to the question of whether the incubator “graduates” all its tenant firms, just over half of all Metropolitan and Micropolitan business incubators consider their tenants to have graduated if they leave under any circumstances, while this is true for just over 81% of OCBSA incubators. Firms are not counted as graduates if they reach the maximum time limit for 4.8% of Metropolitan and 5.5% of Micropolitan business incubators, and for OCBSA incubators this number rises to almost 19%. Roughly 41% of Metropolitan and Micropolitan incubators require tenants to attain the graduate standards to count as a graduate.*

3.6 Reporting and tracking

Reporting and tracking requirements appear to differ somewhat by geographical area. In 56% of Metropolitan area incubators and 60% Micropolitan area incubators, tenants are required to submit annual performance data or annual reports to the business incubator. The corresponding number is 31%

for OCBSA incubators. Twenty-six of Metropolitan incubators track the performance of all former tenant firms, whereas Micropolitan and OCBSA incubators track less than 22% of former tenants.

Only one of 16 OCBSA incubators reported that tenants had received patents during the year, although that incubator tenant was reported to have received between six and 10 patents. In contrast, one out of five Micropolitan incubators reported receiving patents during the year with two receiving just one patent, three receiving two to five patents, and two reporting more than 10 patents each. Of the Metropolitan area business incubators 48% reported their tenants receiving patents during the year, with 12 incubators reporting one patent, 37 reporting between two and five patents, 14 reporting between six and 10 patents, and five reporting more than 10 patents.

Far fewer tenants in any geographic region type sold product or service licenses during the previous year. OCBSA incubators had none to report, while 14% and 22% of Micropolitan and Metropolitan business incubators reported licenses sold.*** Thirty-nine percent of Metropolitan and 40% of Micropolitan business incubators reported selling between 2 and 5 licenses.

When asked whether any current or former tenant firms received new investment capital in the prior year, 64% and 56% of Metropolitan and OCBSA incubators answered in the affirmative, while for Micropolitan business incubators that number dropped to 43%.** Thirty-four percent of Metropolitan incubators reported that at least one of their current or former tenant firms had been acquired by or merged with another firm in the last year. Nearly 26% of Micropolitan business incubators reported that any of their tenants

had been acquired or merged, while only 12.5% of the OCBSA incubators gave this answer. Between 21% and 23% of Metropolitan and Micropolitan incubators were simply unable to answer the question because they did not know; 37.5% of OCBSA incubators did not know. This finding reinforces the conjecture that post patent performance tracking could be improved.

Finally, business incubators were asked to indicate the percentage of firms graduating from their facilities over the last 5 years that were still in business. Fifty-eight percent of Metropolitan business incubators estimated that 60% or more of their recent graduates were still in business. This compares to an estimate of 25.7% of Micropolitan business incubators and 37.5% of OCBSA incubators estimating a graduate survival rate of 60% or more.

4 What the Numbers Can't Say

The survey questionnaires and responses were successful in identifying systematic variation within a set of business incubator characteristics among counties of differing levels of urbanization. To refine and deepen understanding of the role of the business incubator in areas outside of metropolitan areas, we conducted follow-up interviews with incubator representatives in these locations. While preliminary, several themes seem to recur with some regularity. These are discussed in turn, below.

4.1 The Roles of Rural Business Incubators

While job creation and new business formation are goals of incubators at all geographical levels, we discovered during follow-up interviews that rural incubators often take on additional roles. In several cases, rural business incubators had evolved into organizations that resembled community centers. This was especially the case in locations where the incubator had been established in re-purposed space, often a former school house or similar structure. In these cases, in addition to providing the usual infrastructure and services to business tenants, the facilities (e.g., conference rooms, kitchens, and the like) would be available to various civic organizations, community groups, and others. Additionally, these incubators might house local Chambers of Commerce and economic development offices from a range of governmental levels (e.g., Economic Development Administration). In the least populated areas, such incubators could potentially become local centers of activity.

One gains the sense that there is a social dynamic that evolves around rural incubators. The social networking that takes place in most smaller communities plays a role in the development of rural incubators in ways that are not generally associated with incubators in core urban areas. While this dynamic can help fill the incubator space, it also has the potential to re-orient the incubator mission or objectives.

Formal evaluations of business incubator performance rarely, if ever, take these kinds of considerations into account, and as a result, overlook an important dimension of the contributions of business incubators to rural economic

health and vitality.

4.2 Tenant Selection Strategy in Rural Areas

The potential to provide ample and high quality support would be expected to increase with the number of tenants in an incubator facility, but the small size of the rural economy typically translates to fewer prospective tenants, causing tenant selection to vary widely in rural areas. As one interviewee put it, “you have to have economies of scale if you are going to keep the rent low enough assuming the initiative requires building space and usually it does. So, you need that economy of scale.” Hence, business incubators in metropolitan areas might have the luxury of restricting their tenants to certain industrial sectors, rural incubators rarely do.

The picture that evolves in rural areas is one that often includes re-purposing of an existing building, converting it with the goal of establishing a business. However, given the realities of location theory, filling the available space and establishing a stable cycling of businesses proves to be difficult. Eventually, given the economic realities of covering costs, the incubator space itself undergoes a re-purposing, and the space opens up to other kinds of activities not conventionally a part of the incubator image. These new activities can include service providers such as dentists, hair salons, and certain kinds of boutique shops such as local craft outlets. In one case, some space even developed into residential apartment housing, a fitness center, and a karate school.

Failed, or open but empty incubators, however, are often the result of establishing an incubator that focused too heavily on activities that did not reflect the surrounding economy. An attempt to focus on high tech sector tenants in areas of high poverty, high crime, or low education and poor work skills, for example, is a prescription for failure. The ideal focus of an incubator and its tenants will be on products and services that are in demand locally. Since cluster development is often a parallel goal, these lessons are likely to be especially pertinent in rural and small urban areas.

4.3 Localization vs. Leakage of Incubator Impacts

The experience of some nonmetropolitan incubators lead to the realization that in some cases these incubators lead to successful graduates, but graduates who locate outside of the incubator regions themselves. Hence, the benefits of the rural incubator are not localized, but rather can be experienced in altogether different locations. Does having an incubator increase the odds of localizing the development, or does it simply accelerate the early stage, pre-relocation phase of development? If the latter, the concept of a “business accelerator” takes on an entirely new meaning!

5 Summary

The USDA survey identified a number of significant differences between metropolitan and nonmetropolitan business incubators. In combination with post-survey interviews, the most striking finding is that although metropoli-

tan incubators can meet a broader set of objectives and play more varied roles in their economies, business incubators in nonmetropolitan areas are much more likely to do so, and are much more likely to achieve the economies of scale necessary to continue operations when they are open to multiple functions. We expect that the explicit *ex ante* recognition of the multi-functional nature of successful nonmetropolitan business incubators might well enhance the probability that these incubators will be effective agents of regional economic development. Indeed, a multi-purpose, multifunctional design might well work to the advantage of business incubators operating at all geographical levels.

Acknowledgement

This research was enabled with the financial support of the US Department of Agriculture National Research Initiative (NRI) Collaborative Research Program (2008-55401-00487).

References

- Adkins, D. (2001), A report for the Japan association of new incubators organizations: Summary of the U.S. incubation industry, Technical report, National Business Incubation Association.
- Cheng, S., Jackson, R. W., Haynes, K. & Schaeffer, P. (2008), Evaluation without bias: New performance measures for business incubators in rural America. Research Proposal, US Department of Agriculture.
- Hackett, S. & Dilts, D. (2004), 'A systematic review of business incubation research', *The Journal of Technology Transfer* **29**(1), 55–82.
- Hackett, S. & Dilts, D. (2008), 'Inside the black box of business incubation: Study B-scale assessment, model refinement and incubation outcomes', *The Journal of Technology Transfer* **33**(5), 439–471.
- Lalkaka, R. (2003), 'Business incubators in developing countries: Characteristics and performance', *International Journal of Entrepreneurship and Innovation Management* **3**(1,2), 31–55.
- Lewis, D. A. (2002), *Does Technology Incubation Work?: A Critical Review of the Evidence*, NBIA research series, National Business Incubation Association.
- Schaeffer, P. V., Cheng, S. & Middleton, M. (2011), Incubators in rural environments: A preliminary analysis, in K. Kourtit, P. Nijkamp & R. Stough, eds, 'Drivers of Innovation, Entrepreneurship and Regional Dynamics', *Advances in Spatial Science*, Springer Verlag, pp. 271–290.
- Shearmur, R. & Doloreux, D. (2000), 'Science parks: actors or reactors? Canadian science parks in their urban context', *Environment and Planning A* **32**(6), 1065–1082.

- Sherman, H. & Chappell, D. (1998), 'Methodological challenges in evaluating business incubator outcomes', *Economic Development Quarterly* **12**(4), 313–321.
- Yu, J. B., Middleton, M. & Jackson, R. W. (2009), Toward the geography of business incubator formation in the united states. Paper presented at The 56th Annual North American Meetings of the Regional Science Association, International, San Francisco, CA.
- Yu, J. B. & Nijkamp, P. (2009), 'Methodological challenges and institutional barriers in the use of experimental method for the evaluation of business incubators: Lessons from the US, EU and China'.
- Yu, J. B., Stough, R. R. & Nijkamp, P. (2009), 'Governing technological entrepreneurship in China and the West', *Public Administration Review* **69**(1), 95–100.