APPALACHIAN OVRDC HIGH GROWTH COMPANY STUDY

FINAL REPORT

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SUMMARY

This study was undertaken to identify a population of high growth companies (HGCs) in the eleven counties of the Appalachian Ohio Valley Regional Development Commission (A-OVRDC) region and understand their role in the region's economy. The study found that the region is home to 555 such companies and that, while they occur at a lower rate than do similar businesses elsewhere in the U.S., they nonetheless make a disproportionately large positive economic effect in the region. Moreover, the study concluded that for these important companies to continue to prosper they will need access to forms and amounts of growth capital that will likely be a challenge to obtain.

HGCs are a Small but Potent Population

Only 555 companies in the A-OVRDC region qualified as HGCs. But while the 555 HGCs represented only 2.3% of all A-OVRDC businesses, they accounted for 39,874 jobs – more than 15% - of the region's total employment. Distinctive characteristics of the AVORDC's HGC population magnify their role in the region's economy. They have high levels of productivity and are engaged in extra regional trade that imports revenues that expand the A-OVRDC economy. And their local ownership status means that more of that money remains in the region, circulating among neighboring businesses and residents. Additionally, their geographic distribution means that the economic contributions of HGCs accrue throughout the region, with each of the A-OVRDC counties being home to several of the 555 companies.

HGCs Differ From Entrepreneurial Assumptions

The region's HGCs are locally owned, successful businesses that differ from popular perceptions of entrepreneurs as startups in new technologies. HGCs are more often mature companies that grew slowly for years before entering a period of rapid growth. Rather than being concentrated in a narrow range of technology industry sectors, the region's HGCs are instead engaged across a variety of industry sectors in the region. Comparisons to national benchmarks revealed the region's has comparative advantages in Wholesale Trade, Manufacturing and Retail Trade, suggesting promising sectors for the development of future HGCs.

HGCs Face Growth Capital Challenge

An assessment of the availability of capital to support current and future growth companies in the A-OVRDC region found that state and local policy efforts addressing entrepreneurs' access to capital overlook a reasonable concern for the adequacy of appropriate capital for its HGCs. The study estimated the region's expanding HGCs would constitute an aggregate growth capital demand of $954 million in more than 50 investments over the next ten years. Despite active U.S. private equity investment in this segment, a scarcity of Ohio firms serving the A-OVRDC market may make it difficult for HGCs to compete for the necessary growth capital. These findings suggest that the Ohio economic development policy emphasis on increasing capital access should be expanded beyond venture capital and small business lending to address the availability of private equity growth capital for HGCs as well.

1. INTRODUCTION

In 2021, staff of the Ohio University Voinovich School of Leadership and Public Service undertook a study examining the population of high growth companies (HGCs) in the Appalachian Ohio region. HGCs are independently owned businesses, as opposed to subsidiaries of other companies, that have grown to be among the largest businesses in their industry sectors. National research has found that HGCs have disproportionately large positive effects on their regional economies. The successes of such firms can also be viewed as significant market indicators of regional economic advantages for future growth.

Economic development efforts that enable HGCs can therefore exert considerable leverage on increased regional employment and economic activity. But such efforts need to recognize that HGCs typically deviate from popular perceptions of startup, technology-based entrepreneurial activity in that they are predominantly more established firms active across a variety of industry sectors. This research, by identifying and characterizing the population of HGCs in the A-OVRDC region, may reveal new and more effective opportunities for economic development support of higher impact local business growth.

1.1 Research Project Structure

This research identified and analyzed HGCs in the eleven Appalachian counties of the Ohio Valley Region Development Commission (A-OVRDC) region. The study involved two phases. Phase One identified and characterized the population of A-OVRDC HGCs across a spectrum of attributes, including number, scale, industry, and geographic distribution. Phase Two described the capital structure and financing requirements of HGCs in general and assessed the availability of private capital for current and future HGCs in the A-OVRDC region.

The research was directed by Brent Lane, Senior Executive in Residence with the Voinovich School of Leadership and Public Service, with the support of other Ohio University scholars, staff, and students. The project was initiated in November 2020 and completed in December 2021.

1.2 The Appalachian OVRDC Study Area

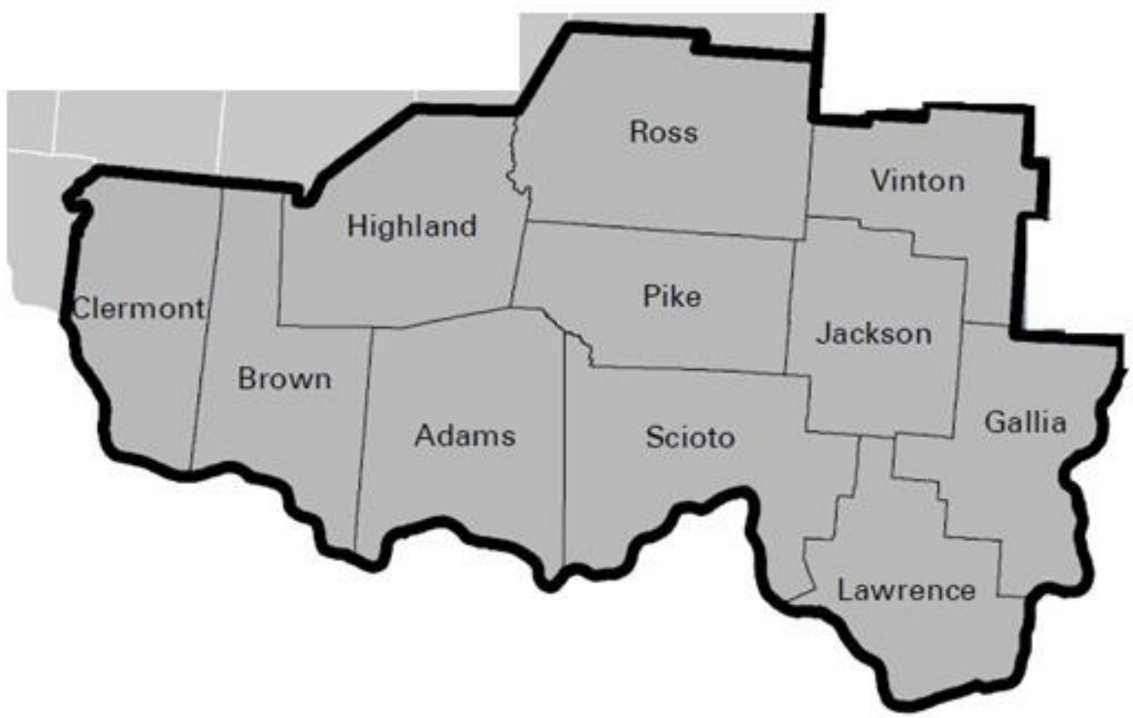
The study area for this research was the eleven Appalachian counties of the Ohio Valley Region Development Commission (OVRDC) region. The OVRDC region itself encompasses twelve counties in Southern Ohio. (Figure 1) The region is dispersedly populated by approximately 670,000 residents and spans 6,022 square miles containing 171 townships, 70 villages, 9 cities, and 14 census-designated places (CDP's). Established in 1967, OVRDC serves as a Local Development District for the Appalachian Regional Commission, an Economic Development District for the US Department of Commerce, Economic Development Administration, and a Regional Transportation Planning Organization for the Ohio Department of Transportation.

All but one of the 12 OVRDC counties, Fayette, are also within the Appalachian Regional Commission (ARC) jurisdiction. As this research was designed to address ARC-designated counties, the geographic area included in this project included only the eleven OVRDC counties that are also designated as ARC counties. The Appalachian OVRDC – termed A-OVRDC - study area (Table 1) therefore consisted of the following counties:

Table 1: A-OVRDC Counties

Study Area A-OVRDC Counties	
Adams County	**Lawrence County**
Brown County	**Pike County**
Clermont County	**Ross County**
Gallia County	**Scioto County**
Highland County	**Vinton County**
Jackson County	

FIGURE 1: MAP OF A-OVRDC COUNTIES



1.3 Methodology

The project's Scope of Work methodology involved several tasks in its two phases. The study's Phase One research tasks included:

- Establishing definitional parameters for high growth company identification;
- Queries of proprietary commercial databases of privately-held businesses to identify qualifying companies in the A-OVRDC research study area; and
- Analysis and characterization of the identified HGCs along factors (i.e., number, scale, industry, and geographic distribution) pertinent to an understanding of their economic significance in the A-OVRDC region.

The research's Phase Two research tasks included:

- An investigation of private market capital research to describe the capital structure and financing requirements of HGCs in general;
- A comparative analysis of the characteristics of the OVRDC region's population firm population characteristics with the investment preferences of potential sources of growth capital; and
- An assessment of the availability of corresponding relevant private capital for current and future HGCs in the A-OVRDC region.

2. HIGH GROWTH COMPANIES

The high profile successes of publicly-traded companies, especially firms such as Facebook, Google, and Amazon, have created a public perception of high growth companies as being predominantly entrepreneurial startups originating in technology centers such as Silicon Valley. But this perception contrasts sharply with recent U.S. economic research which has consistently found, using ever more sophisticated and comprehensive data sources and analytical tools, that those companies achieving the greatest levels of growth – as opposed to rates of growth – are more mature companies across a broad range of industries and geographies.

Definitions of high growth companies vary widely depending on the priorities of the identifying entity. For investors in public companies, such as those traded on stock markets around the world, a "growth company" is a publicly-traded company whose business generates significant positive cash flows or earnings, which increase at significantly faster rates than the overall stock market. For venture capital investors that invest in privately-owned businesses, their targeted "growth company" is typically a young, or even new startup, entrepreneurial business in which the investors can effectively take control through majority ownership positions. Often these businesses will be active in a technology-driven industry sector in which the investors intend to drive the company to achieve rapid initial revenue growth enabling a profitable investment exit through an initial public offering to public stock market investors.

Unlike financial markets, which prioritize company growth as a driver of shareholder value regardless of company scale factors, economic researchers – especially those involved in economic development policy design – are most interested in the company growth as a source of economic outcomes such as income and employment. From that perspective, high growth companies are best defined in terms of their increased, sustained economic impacts.

2.1 Definition of High Growth Companies

It was from that orientation that, beginning in the 1980s, economic researchers began identifying a set of high growth companies – colorfully termed “gazelles” by researcher David Birch – that, while constituting a small percentage of all firms, contributed a majority share of net new employment. These earlier findings have been much refined as increasingly more precise sources of data on business activity have become available to researchers. The result has been an emerging consensus that while startup entrepreneurial firms exhibit the highest growth rates, whether in revenues or jobs, their volatility mediates their sustained net economic impacts as business failures offset many of that segment’s economic effects.

Instead, it has been established that the most impactful high growth firms are those that achieve significant growth after first becoming more firmly established. A 2011 U.S. Small Business Administration report, “Accelerating Job Creation in America: The Promise of High-impact Companies”, found that the firms with the greatest economic impacts, rather than being startups, instead had an overall average age of 19 years, with a median age of around 12 years. Such findings have been confirmed by numerous subsequent studies, which have further revealed that high growth companies consistently occur across both industry sectors and geographies at a fairly consistent rate of 2 to 3% of the total U.S. business population. This research has also found that the “growth trajectories” of high growth companies can vary from a short span of dramatic expansion to a “slow but steady” incremental pace of growth.

These observations appears to apply to high growth companies in Ohio as well. In their 2021 report, “Not All High-Growth Firms Are Alike: Capturing and Tagging Ohio’s Gazelles”, researchers Merissa C. Piazza and Edward (Ned) Hill found that among the 1.2% of all Ohio’s firms they classified as high growth., the “larger herd of gazelles grows consistently, while the other, much smaller pack experiences short, intense growth spurts.”

2.2 Study High Growth Company Definition Parameters

Despite the highly variable nature of definitions of high growth companies, the end result, regardless of their individual growth trajectories, is that such companies eventually become among the largest businesses in their industries. Moreover, they retain their status as independently owned rather than being a subsidiary of a larger, parent company. This provided three primary parameters for defining the A-OVRDC region’s high growth company population:

1. **Location**: Within the eleven A-OVRDC counties
2. **Ownership**: Independent location or Headquarters
3. **Size**: Annual revenues >$5 million

These parameters were used to build a study population (Table 2) of qualifying HGCs through queries of proprietary commercial business information databases. The primary source employed in this study was the Data-Axle Reference Solutions collection of databases that provides information on more than 64 million U.S. businesses.

Table 2: Parameters of High Growth Companies in the A-OVRDC Region

Parameter	Description	A-OVRDC # of Companies
Location	Based in the eleven counties constituting the Appalachian OVRDC study area	A total of **24,198** businesses of all types are located in the study region
Ownership	Independently owned and classified as either a sole location or a headquarters company	Of the total 24,198 businesses in the study area, **20,206** are classified as locally owned
Revenue Size	Annual revenues at a level placing the company in the top 5% of US firms	Of the 20,206 locally owned businesses in the A-OVRDC study region, only **555** are among the top 5% of US firms in annual revenues

2.3 A-OVRDC Comparative Business Population

The existence of high growth companies in any regional economy is inherently a function, to some extent, of the size and nature of the region's total business population. In the case of the A-OVRDC region, its business population is comparatively small even in resident population-adjusted terms.

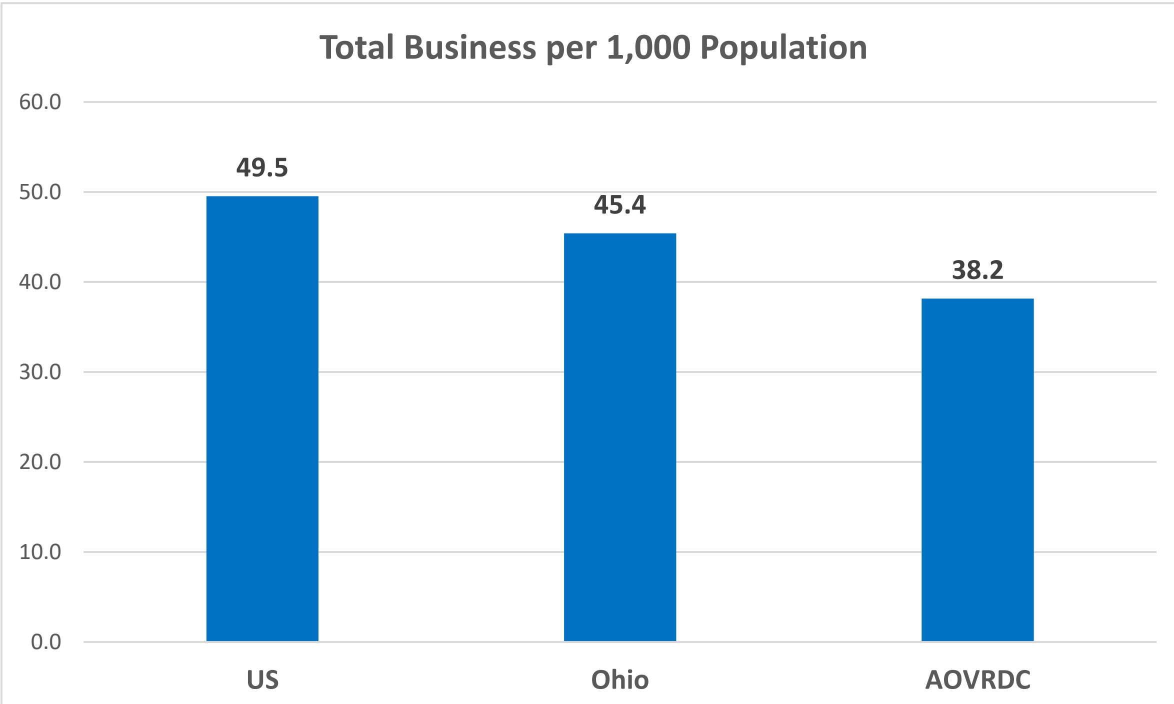
2.3.1 Location

For example, of the more than 535,000 businesses identified in Ohio, a total of 24,198 are located in the A-OVRDC region. While this is a sizable number of businesses, it is not particularly large given the region's population of 634,000. When adjusted for population, as shown in Table 3, the region's number of all businesses per 1,000 population (38.2) lags significantly behind those figures for the State of Ohio (45.4) and the United States (49.5). (Figure 2)

Table 3: Number of Businesses per 1000 population for US, Ohio, and A-OVRDC region

	US	Ohio	A-OVRDC
2020 Population	331,449,281	11,799,448	634,173
Total Number of Businesses	16,421,602	535,873	24,198
Total Firms/1,000 pop	49.5	45.4	38.2

FIGURE 2: NUMBER OF BUSINESSES PER 1000 POPULATION



2.3.2 Locally Owned Businesses

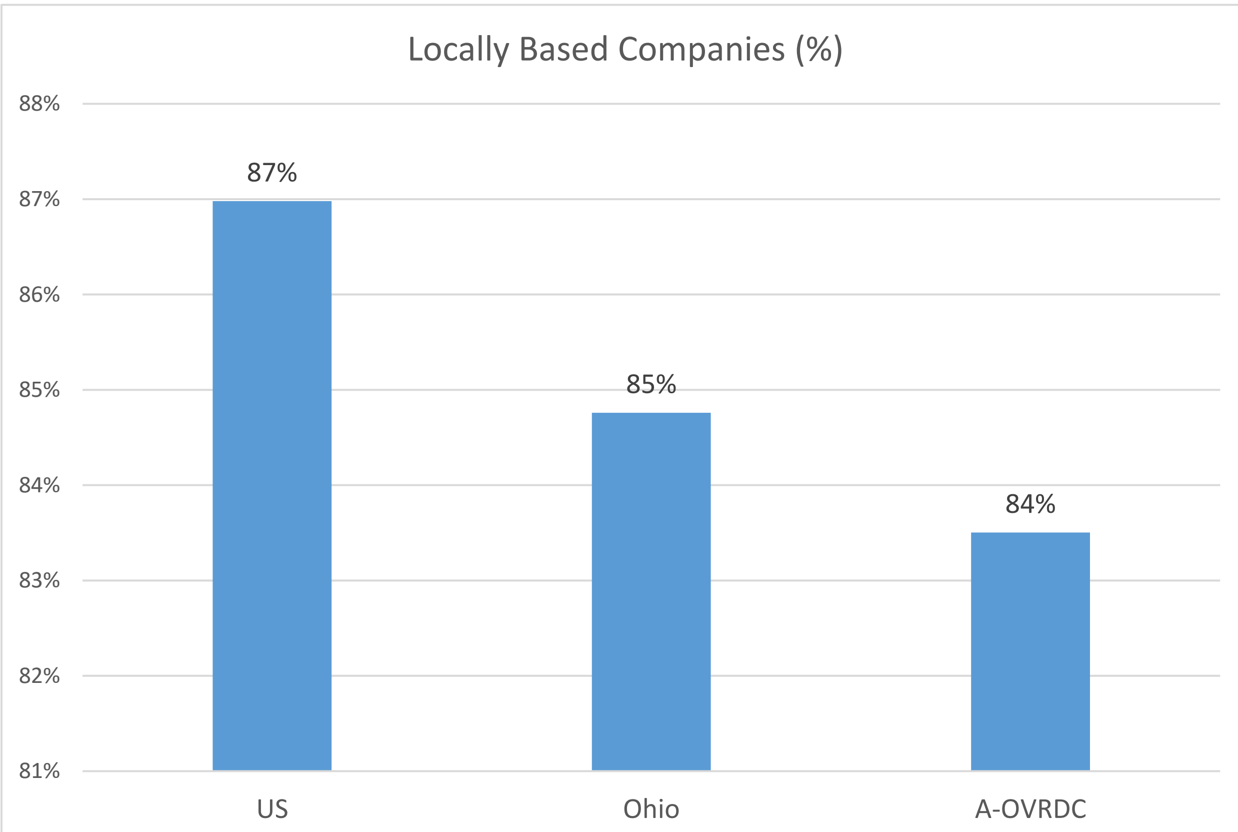
A similar scarcity is reflected in the both the share and number of locally owned businesses in the A-OVRDC region. Of the region's total of 24,198 businesses, 20,206 were identified as being locally owned in the form of either a sole location or a headquarters. Sole locations are independently companies with only a single facility, as opposed to having subsidiary firms with additional facilities elsewhere. Conversely, headquarters have central administrative functions located in the study area while also having subsidiary operations that may or may not be located in the A-OVRDC region.

As shown in Table 4, the share of businesses in the region that are locally owned is only slightly less (84%) than for both Ohio (85%) and the US (87%). However, even this slight difference, when compounded by the comparatively fewer number of total A-OVRDC businesses, results in a remarkable disparity in the region's number of locally owned businesses given its population. When adjusted for population, the region's number of locally owned businesses per 1,000 population (31.9) lags even farther behind figures for the State of Ohio (38.5) and the United States (43.1). (Figure 3)

Table 4: Locally Based Businesses in US, Ohio, and A-OVRDC region

	US	Ohio	A-OVRDC
2020 Population	331,449,281	11,799,448	634,173
Locally Based Businesses	14,283,309	454,198	20,206
% of Locally Based Businesses	87%	85%	84%
Local Businesses/1,000 Pop.	43.1	38.5	31.9

FIGURE 3: PERCENT OF LOCALLY BASED BUSINESSES



2.3.3 Revenue Size

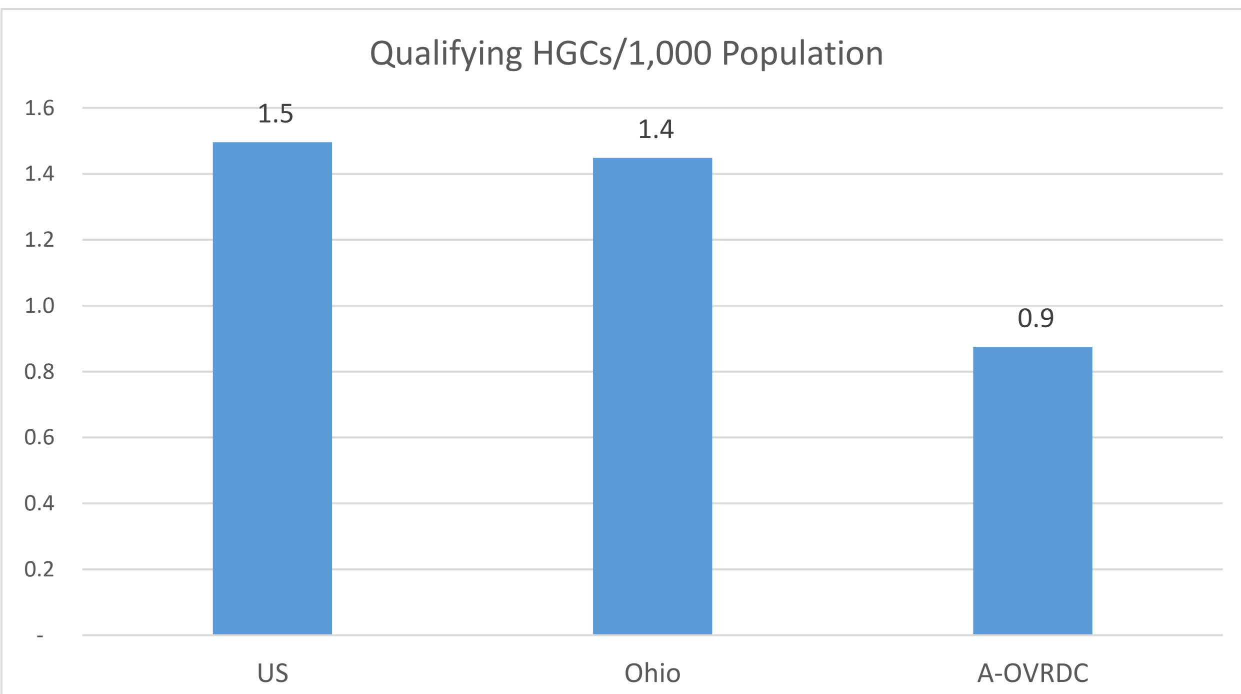
Given the A-OVRDC region's smaller populations of both total businesses and locally owned businesses, it is expected the region would also have a proportionately smaller number of firms with annual revenues exceeding $5 million that would qualify them as High Growth Companies (HGCs). However, that is not inevitable result, as it is possible for a region to provide economic, financial or resource advantages that are especially supportive of company growth. From that perspective, the more economically significant statistic to examine is the share of locally owned firms that have achieved the qualifying $5 million annual revenue size. Unfortunately, as shown in Table 5, that does not appear to the case in the A-OVRDC region. Instead, only 2.7% of the region's locally based companies have annual revenues exceeding $5 million. This compared unfavorably to the rates of both Ohio (3.8%) and the United States (3.5%).

As a result, only 555 companies in the A-OVRDC region qualify as High Growth Companies (HGCs). Adjusted for population, the region's number of HGCs per 1,000 population (0.9) lags significantly behind those figures for the State of Ohio (1.4) and the United States (1.5). (Figure 4) While limited, because of the disproportionately large economic contributions research has found HGCs to make nationally, the characteristics of the AVORDC's HGC population may be such that they nonetheless have a significant role in the region's industries, economies, and employment. These characteristics are examined in the next section.

Table 5: Qualifying HGCs in the US, Ohio and A-OVRDC region

	US	Ohio	A-OVRDC
2020 Population	331,449,281	11,799,448	634,173
Number of Qualifying HGCs	495,889	17,092	555
% of Qualifying HGCs	3.5%	3.8%	2.7%
Qualifying HGCs/1,000 Pop.	1.5	1.4	0.9

FIGURE 4: QUALIFING HGCS PER 1000 POPULATION



3. A-OVRDC HIGH GROWTH COMPANIES POPULATION CHARACTERISTICS

The 555 companies identified as HGCs in the A-OVRDC region are only 2.3% of the region's total business population of 24,198 businesses. These percentage is well behind the comparable figures for both Ohio (3.2%) and the United States (4.2%). (Table 6) Nonetheless, these A-OVRDC HGCs were found to play a large and important role in the region's economy due to characteristics that magnify their contributions.

Table 6: Percentage of HGCS of Total Businesses in the US, Ohio, and A-OVRDC

	Total Businesses	HGCs	%HGCs
US	11,799,448	497,442	4.2%
Ohio	535,873	17092	3.2%
A-OVRDC	24,198	555	2.3%

Research on high growth companies has consistently found that the economic impacts of HGCs are primarily a result of their nature, rather than their number. Not only do HGCs exhibit a greater likelihood of continued expansion in conventional economic outcomes such as revenues and employment, their nature as locally owned, but typically non-local (i.e., national, or even global) in their markets, means that they make a greater economic contribution than other businesses of comparable scales. The greater extent to which they add value to the goods and services they produce further amplifies their economic impacts. In this section we report on this study's analysis of the characteristics of the A-OVRDC region's population of HGCs in that regard.

3.1 Geography

One such characteristic research has demonstrated that increases the economic contribution of HGCs is their tendency to be geographically widely distributed. Much more so than many other drivers of regional economies, in the United States HGCs have been found to be located across a diversity of geographies – from urban to rural, and from east to west, north to south – and in fairly equal proportions. This geographically "ubiquitous" characteristic has made them a uniquely potent economic opportunity for diverse communities throughout the country.

3.1.1 A-OVRDC Distribution

The population of A-OVRDC HGCs largely shares this nature. As demonstrated by the map (Figure 5) of the location of the A-OVRDC HGCs, each of the A-OVRDC counties are home to several of the 555 identified companies. The number of HGCs in a given county varies greatly from a high of 180 companies in Clermont County to a low of 11 companies in Vinton. (Figure 6) But this large range is expected given the differential population distribution of the region.

FIGURE 5: MAP OF HGCS IN A-OVRDC BY 2-DIGIT NAICS CODE

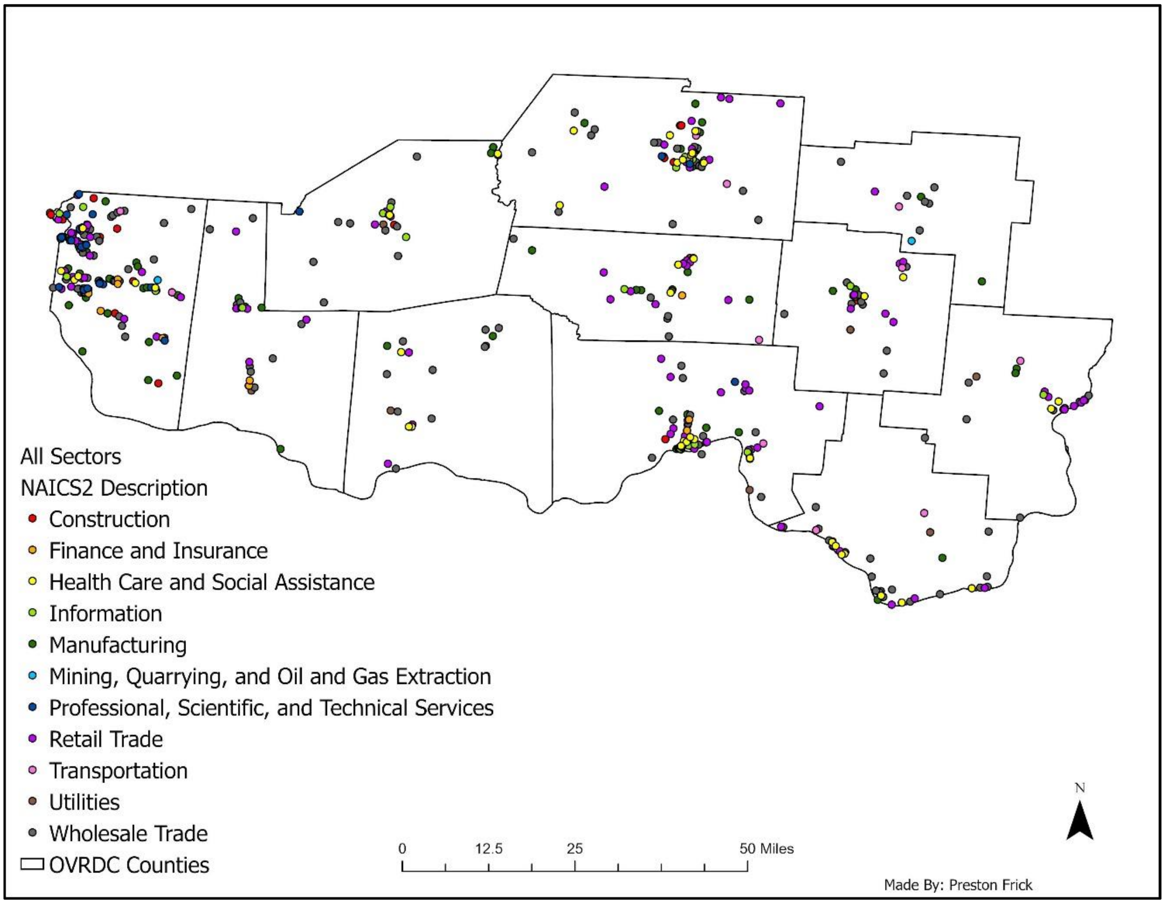
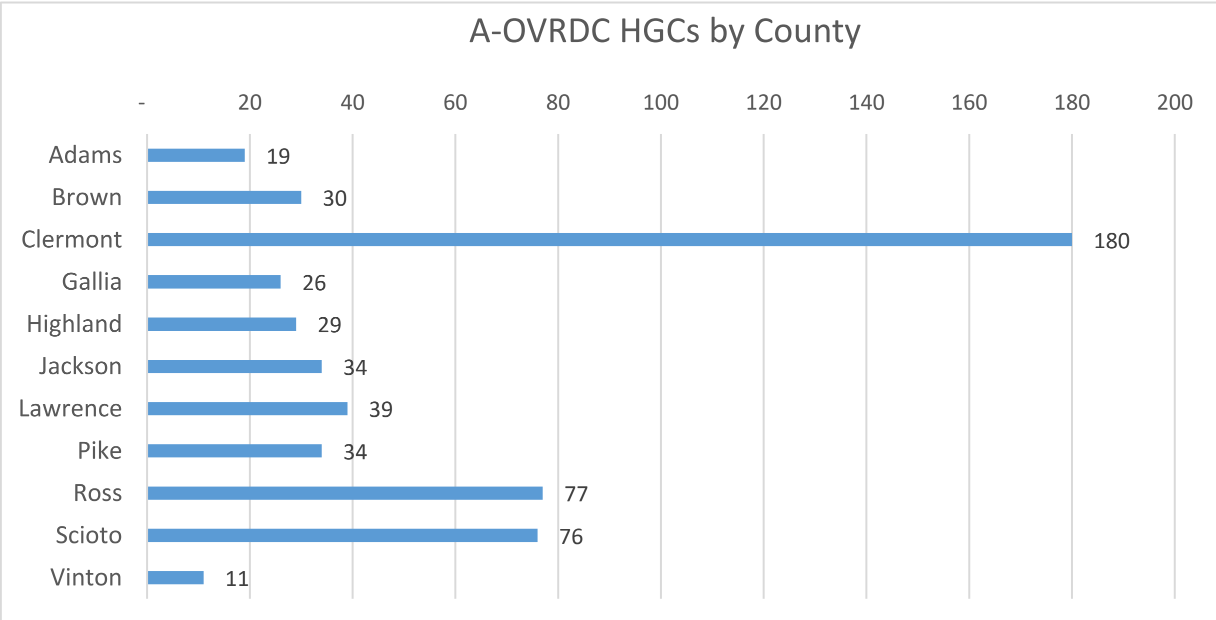


FIGURE 6: DISTRIBUTION OF HGCS AMONG A-OVRDC COUNTIES



It is noteworthy that, when adjusted for the number of HGCs for a percentage of the total number of firms (Table 7), some A-OVRDC counties are shown to host a disproportionately larger number of HGCs. As previously discussed, the A-OVRDC region has a HGC share of 2.3%, well behind the comparable figures for both Ohio (3.2%) and the United States (4.2%). But within the region, the concentration of HGCs per county ranges from a high of 3.1% in Vinton County to a low of 1.8% in Lawrence. At 2.5%, Clermont County, with by far the largest number of HGCs (180), is only slight above the regional figure (2.3%). While that may not be a significant difference, it is meaningful that several smaller A-OVRDC counties host a larger share of HGCs, thus demonstrating the economic relevance of HGCs across the region.

Table 7: HGCs by A-OVRDC Counties

County	#HGCs	Firm Population	#HGCs/All Firms
Adams	19	926	2.1%
Brown	30	1,314	2.3%
Clermont	180	7,206	2.5%
Gallia	26	1,364	1.9%
Highland	29	1,515	1.9%
Jackson	34	1,327	2.6%
Lawrence	39	2,117	1.8%
Pike	34	1,225	2.8%
Ross	77	3,422	2.3%
Scioto	76	3,425	2.2%
Vinton	11	357	3.1%
Total	555	24,198	2.3%

In particular, Ross (1.00), Scioto (1.03), Jackson (1.04), and Pike (1.26) counties exceed one HGCs for every 1,000 people. These higher concentrations may reflect local competitive advantages, or they may simply be only chance outcomes. Regardless, it is important that every county in the A-OVRDC region have a demonstrated history of supporting the origination and/or growth of locally owned companies to become substantial in scale, with consequential benefits to their economies and citizens.

3.2 Scale

As previously discussed in the study's defining high growth companies, high rates of company growth - whether in revenues or employment – is less significant than the scale eventually yielded by such growth. This seemingly obvious fact is often overlooked in discussions of the importance of entrepreneurship which overly emphasize the inevitably higher growth rates of startups. Young businesses with single digit numbers of employees can have exceedingly high percentage growth rates without producing the larger scale economic outcomes of more established - but nonetheless still entrepreneurial – HGCs growing at less gaudy rates.

3.2.1 Revenues

While the A-OVRDC region has produced HGCs at a lesser rate than the U.S. and Ohio, it is nonetheless producing them at scales comparable to national benchmarks in terms of both revenues and employment. An analysis of the total population of 555 HGCs by annual revenue level segments found that while the majority (309 or 56%) of the companies (Figure 7) fell within the smallest revenue category ($5-10 Million), the average A-OVRDC HGC had annual revenues of $23 million and 72 fulltime employees, this far exceeding the definitional parameter of $5 million in annual revenues. (Table 8)

FIGURE 7: ANNUAL REVENUES OF A-OVRDC HGCS

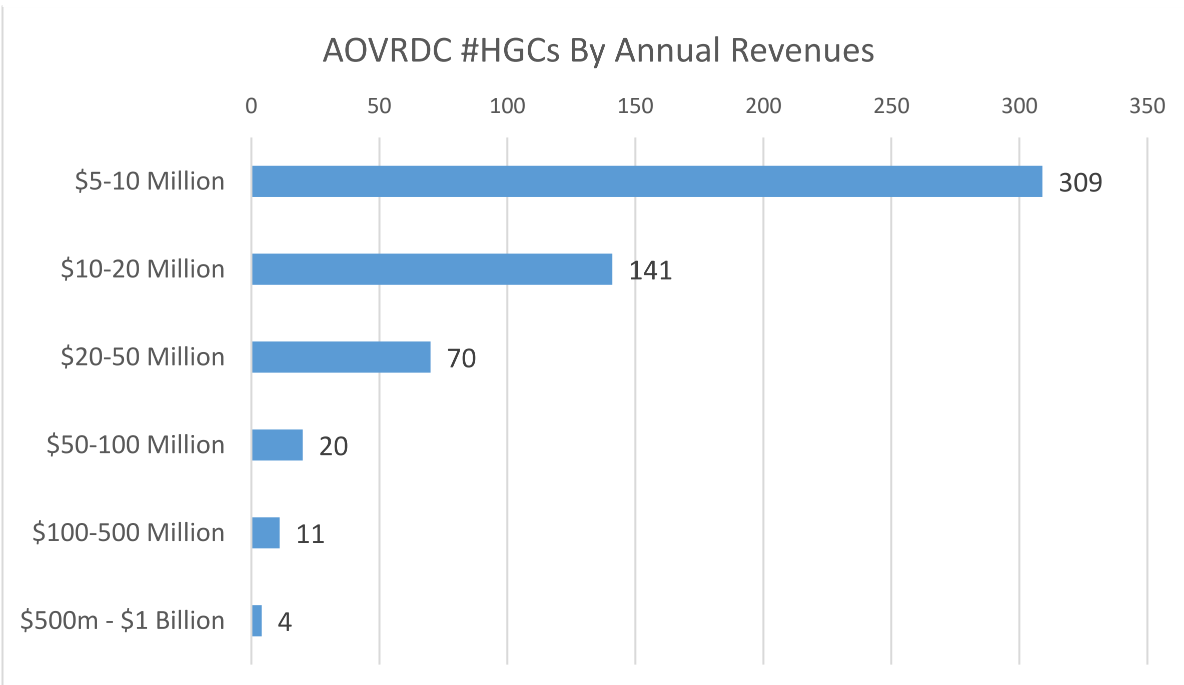
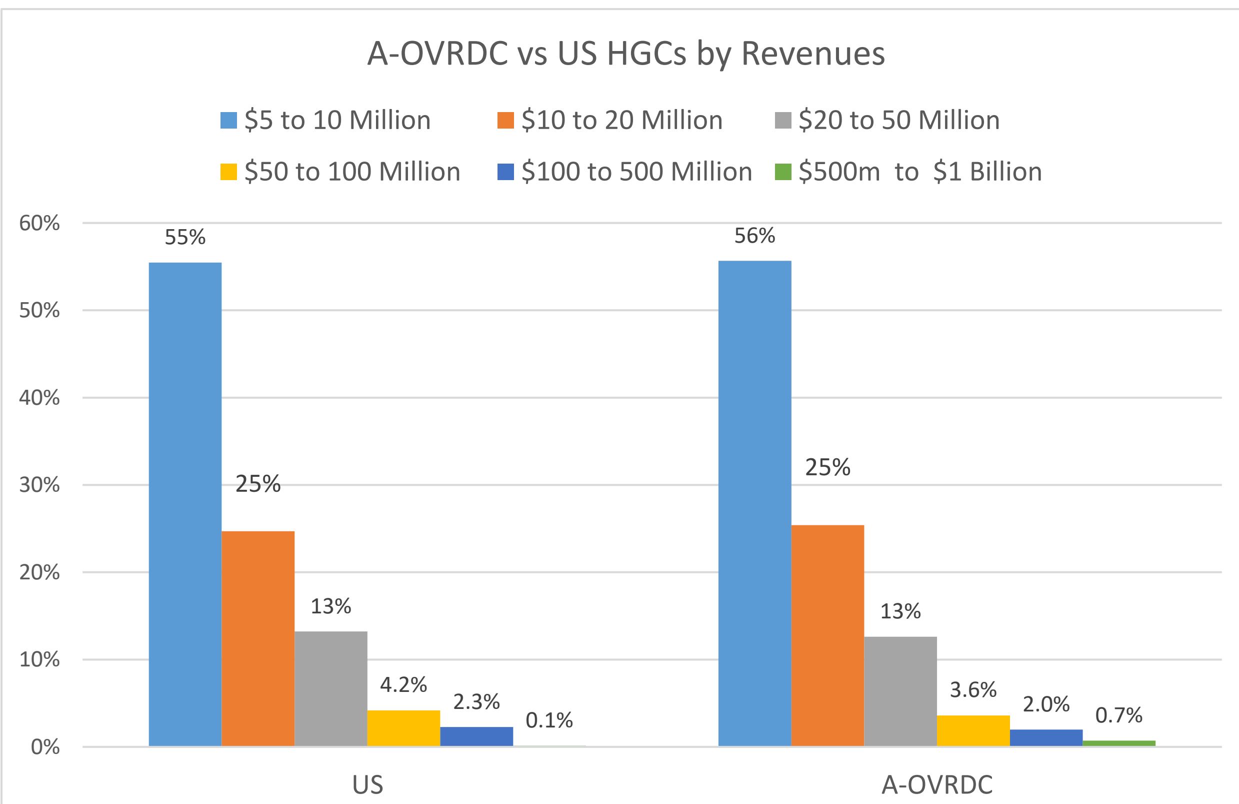


Table 8: Revenue and Employment of HGCs in the A-OVRDC Region

Annual Revenues	#HGC	%HGCs	Revenues	Employees	Avg Rev	Avg Emp
$5-10 Million	309	56%	$2,118,126,000	8,004	$6,854,777	26
$10-20 Million	141	25%	$1,927,941,000	6,216	$13,673,340	44
$20-50 Million	70	13%	$2,173,000,000	5,710	$31,042,857	82
$50-100 Million	20	4%	$1,335,906,000	1,354	$66,795,300	68
$100-500 Million	11	2%	$2,201,377,000	7,090	$200,125,182	645
$500M - $1 Billion	4	1%	$3,223,770,000	11,500	$805,942,500	2,875
All A-OVRDC HGCs	555	100%	$12,980,120,000	39,874	$23,387,604	72

The capability of the A-OVRDC region to support the growth of its resident HGCs is evidenced by the comparability of the share distribution of companies by revenue level between the region and the US benchmark. (Figure 8) The share of HGCs by revenue category are nearly identical for the US and the A-OVRDC region for companies with annual revenues between $5 million and $50 million. The region has a slightly smaller share of companies with annual revenues of $50 to $500 million, but – owing to the presence of large regional healthcare companies – actually has a larger share companies in the highest revenue category of $500 million to $1 billion.

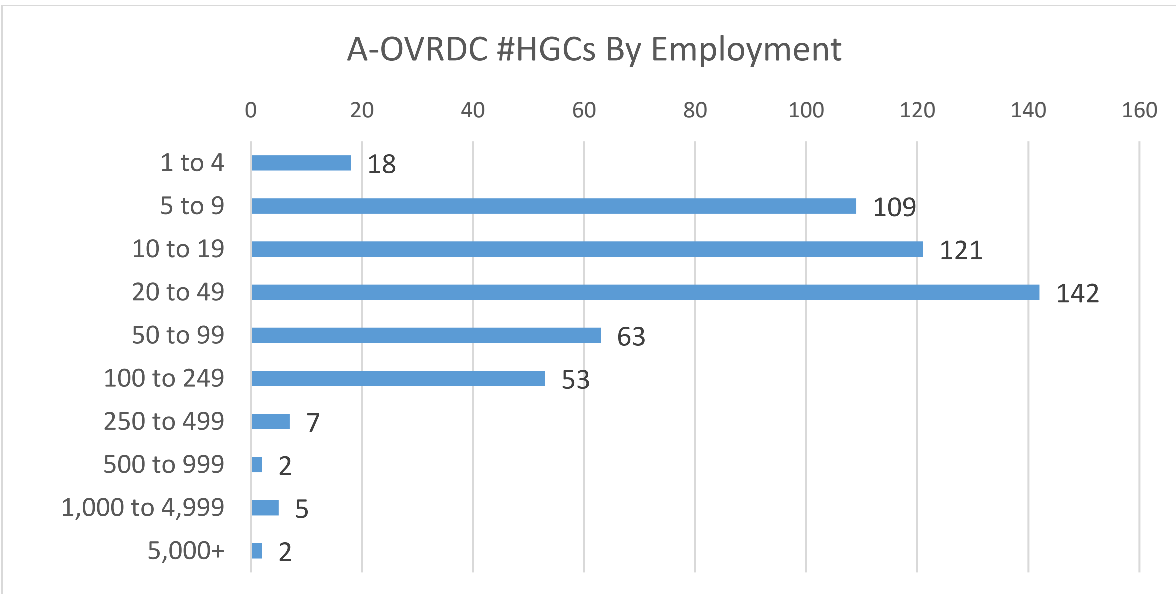
FIGURE 8: COMPARISON OF REVENUES OF HGCS IN A-OVRDC TO THE US



3.2.2 Employment

Although the defining scale parameter of HGCs used in the study was based on companies' annual revenues, it is their employment that is of primary economic development interest. Therefore, the study population was analyzed to determine the association of employment with annual revenues.

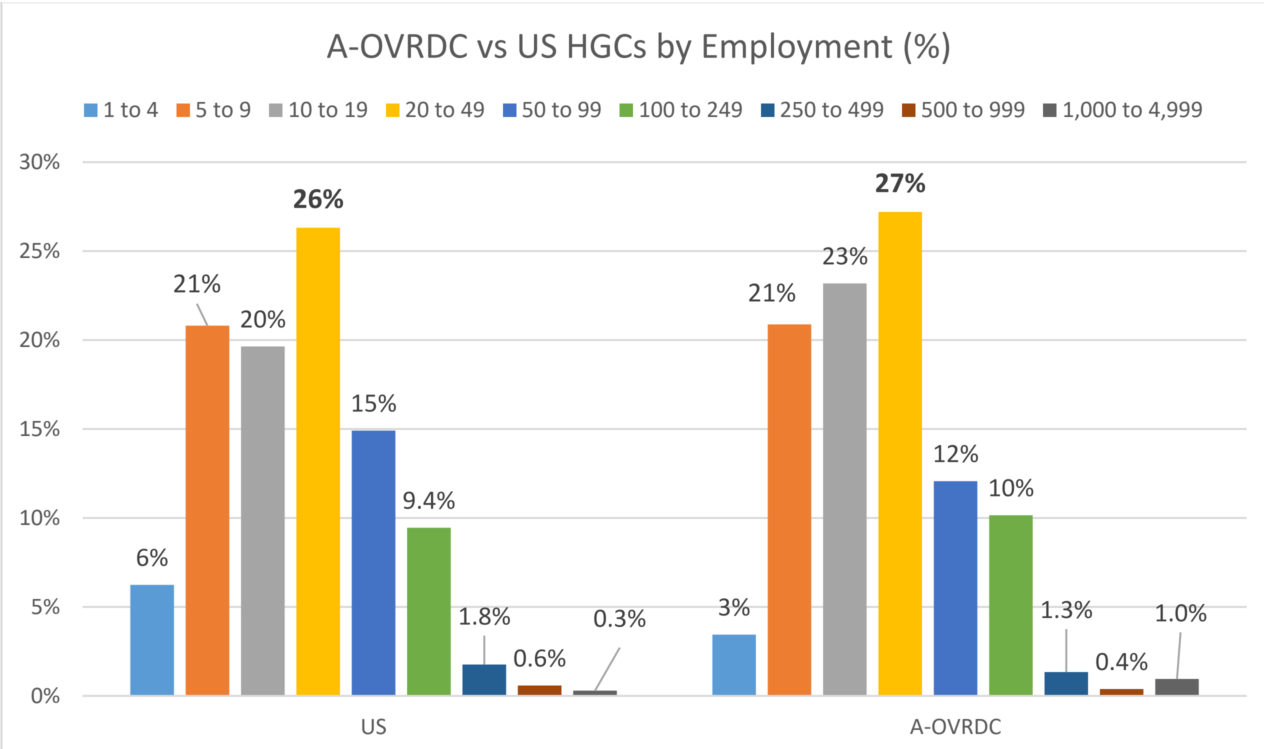
FIGURE 9: EMPLOYMENT IN HGCS IN THE A-OVRDC REGION



The largest number of A-OVRDC HGCs (142) were those with between 20 to 49 employees, followed closely by those with 10 to 19 employees (121), and 5 to 9 employees (109). (Figure 9) As with the annual revenues categories previously described, there is again a remarkable similarity in the distribution of HGCs over categories of employment between the A-OVRDC population and that of the US. (Figure 10)

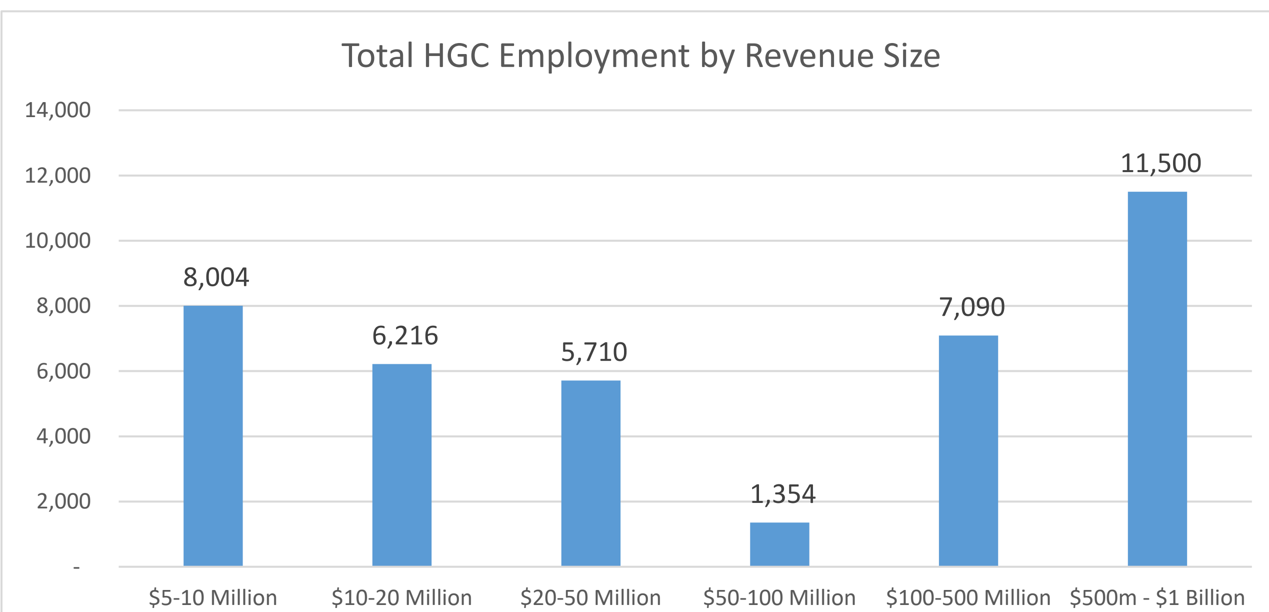
The largest share of A-OVRDC HGCs (27%) are in the 20 to 49 employees categories, which closely parallels the share in that category for the United States (26%). A-OVRDC has a slightest larger share (23%) of companies in the 10 to 19 employees category than the US share (20%), and a slightly smaller share (12% vs 15%) in the 50 to 99 category. The region essentially mirror the US distributions in the other categories.

Figure 10: Comparison of Employment of HGCs in A-OVRDC to the US



As shown in Figure 11, it is noteworthy that while they were few in number (4), the largest revenue HGCs –$500 million to $1 billion - had the largest aggregate employment effect (11,500). However, such "unicorn" HGCs are exceedingly unusual. It is more significant to recognize that the vastly more numerous and widely dispersed HGCs in the $5 million to $20 million categories accounted for more than 14,000 jobs across the A-OVRDC region.

Figure 11: Total HGC Employment by Revenue Size in the A-OVRDC region.



3.3 HGCs Industry Distribution

Research on high growth companies has found that perhaps their most unusual and unexpected nature is their consistent presence across industry sectors. Rather than being more common in certain high technology or innovation-based sectors as has often been presumed, it had been repeatedly shown that high growth companies are as likely to occur in “traditional industry” sectors as in technology sectors; just as frequently in service industries as in information or manufacturing ones. This ubiquitous nature provides for an analytical opportunity to compare the concentrations of HGCs in a region’s industry sectors to a super-regional or national benchmark concentrations as a means of identifying potential regional economic advantages.

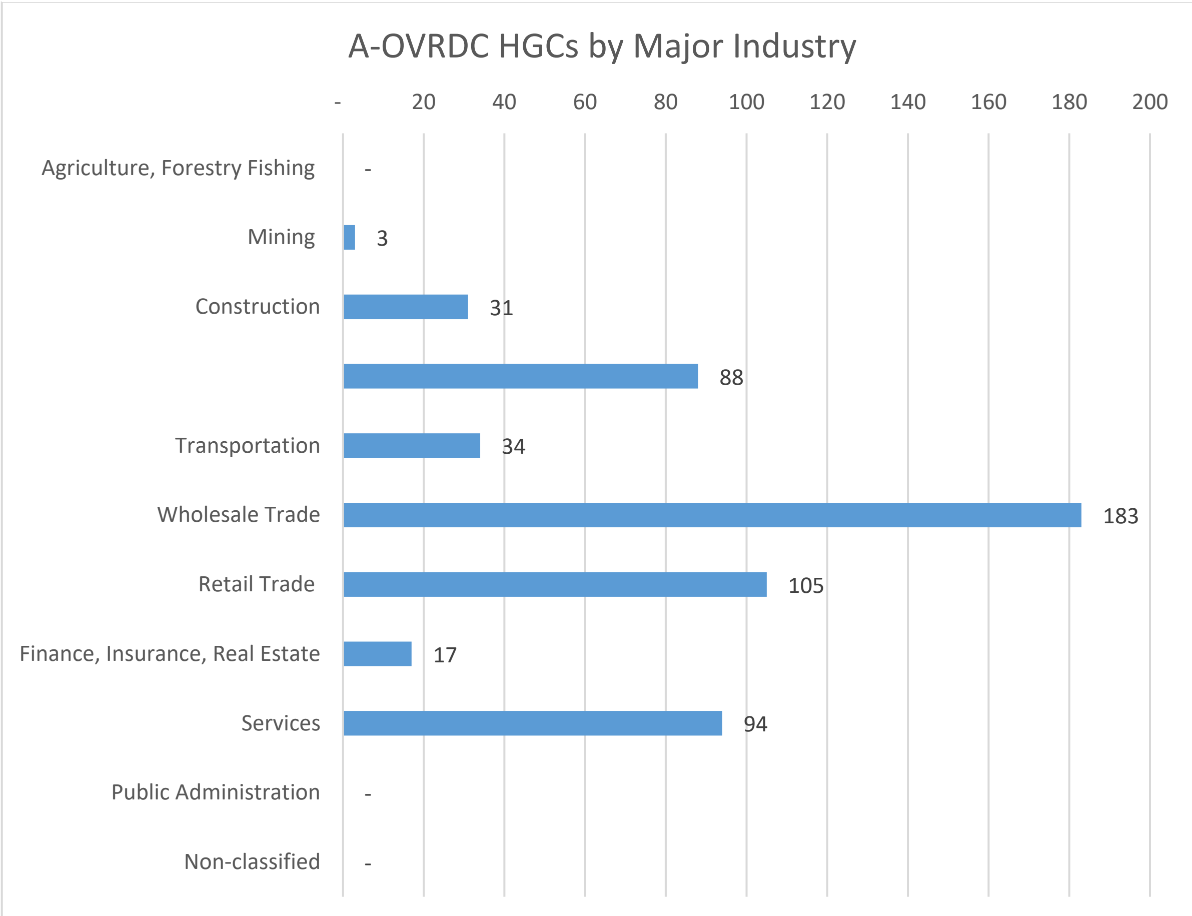
The population of A-OVRDC HGCs was first analyzed to determine its distribution by industry. This was done using the North American Industry Classification System (NAICS), the standard used by Federal statistical agencies in classifying business establishments for the purpose of collecting, analyzing, and publishing statistical data related to the U.S. business economy. NAICS organizes establishments into industries according to the similarity in the processes used to produce goods or services. NAICS codes array the economy into 20 sectors, which are separated into 99 3-digit subsectors, which are divided into 311 4-digit industry groups, which are further subdivided into 709 5-digit industries, and finally disaggregated into 1057 6-digit U.S. industries.

3.3.1 A-OVRDC HGCs Industry Distribution

The NAICS classification for each A-OVRDC HGC was identified down to the 6-digit, 4-digit, and 2-digit levels. The 6-digit level enabled the most precise examination of the type of business activities of the HGCs, while the 4- and 2-digit classifications were useful for assessing industry sector and subsector concentrations, especially for comparison to national or regional benchmarks.

Examining the A-OVRDC HGC population at the 2-digit SIC, or major industry sector level (Figure 12) determined that the largest number of HGCs occurred in the Wholesale Trade (183), Retail Trade (105), Services (94), and Manufacturing (88) sectors. These four major sectors accounted for 470 HGCs (85%) of the total of 555 companies. Most of the remaining 85 HGCs were in the Transportation (34), Construction (31), and Finance, Insurance, Real Estate (17) sectors.

Figure 12: Industry Distribution of HGCs in the A-OVRDC Region



Disaggregating these major industry sector population into subsectors provides more granular insights into the nature of the HGCs in the A-OVRDC region. The region's HGC populations was therefore further analyzed at the 3-digit NAICS classification levels to identify more precisely the types of business activities in which they are engaged. (Table 9)

Table 9: Industry Sector Distribution of HGCs in the A-OVRDC Region

INDUSTRY SECTOR		#HGCS
Mining, Quarrying, and Oil and Gas Extraction		**3**
211	Oil and Gas Extraction	1
212	Mining (except Oil and Gas)	2
Utilities		**17**
221	Utilities	17
Construction		**31**
236	Construction of Buildings	23
237	Heavy and Civil Engineering Construction	4
238	Specialty Trade Contractors	4
Manufacturing		**88**
311	Food Manufacturing	7
312	Beverage and Tobacco Product Manufacturing	9
313	Textile Mills	1
321	Wood Product Manufacturing	14
322	Paper Manufacturing	4
323	Printing and Related Support Activities	2
324	Petroleum and Coal Products Manufacturing	5
325	Chemical Manufacturing	4
326	Plastics and Rubber Products Manufacturing	1
327	Nonmetallic Mineral Product Manufacturing	2
331	Primary Metal Manufacturing	4
332	Fabricated Metal Product Manufacturing	13
333	Machinery Manufacturing	10
336	Transportation Equipment Manufacturing	4
337	Furniture and Related Product Manufacturing	1
339	Miscellaneous Manufacturing	7
Wholesale Trade		**183**
423	Merchant Wholesalers, Durable Goods	120
424	Merchant Wholesalers, Nondurable Goods	58
425	Wholesale Electronic Markets and Agents and Brokers	5
Retail Trade		**105**
441	Motor Vehicle and Parts Dealers	36
442	Furniture and Home Furnishings Stores	2
443	Electronics and Appliance Stores	1
444	Building Material and Garden Equipment and Supplies Dealers	23

445	Food and Beverage Stores	6
446	Health and Personal Care Stores	4
447	Gasoline Stations	27
451	Sporting Goods, Hobby, Musical Instrument, and Book Stores	1
453	Miscellaneous Store Retailers	3
454	Non-store Retailers	2
Transportation		**13**
484	Truck Transportation	8
485	Transit and Ground Passenger Transportation	2
486	Pipeline Transportation	2
488	Support Activities for Transportation	1
Information		**25**
511	Publishing Industries (except Internet)	20
515	Broadcasting (except Internet)	3
518	Data Processing, Hosting, and Related Services	1
519	Other Information Services	1
Finance and Insurance		**16**
522	Credit Intermediation and Related Activities	9
524	Insurance Carriers and Related Activities	7
Real Estate and Rental and Leasing		**1**
532	Rental and Leasing Services	1
Professional, Scientific, and Technical Services		**19**
541	Professional, Scientific, and Technical Services	19
Administrative and Support, Waste Management and Remediation		**4**
561	Administrative and Support Services	3
562	Waste Management and Remediation Services	1
Health Care and Social Assistance		**46**
621	Ambulatory Health Care Services	21
622	Hospitals	3
623	Nursing and Residential Care Facilities	17
624	Social Assistance	5
Arts, Entertainment, and Recreation		**2**
713	Amusement, Gambling, and Recreation Industries	2
Accommodation and Food Services		**1**
721	Accommodation	1
Other Services (except Public Administration)		**1**
811	Repair and Maintenance	1

Table 10 describes the top 50 4-digit NAICS subsectors in order of the number of HGCs in those classifications.

Table 10: Top 50 4-Digit NAICS Subsectors for HGCs in the A-OVRDC region

4-Digit	NAICS Description	#HGCs
4238	Machinery, Equipment, and Supplies Wholesalers	38
4411	Automobile Dealers	31
4471	Gasoline Stations	27
4247	Petroleum and Petroleum Products Wholesalers	22
4441	Building Material and Supplies Dealers	21
4249	Miscellaneous Nondurable Goods Wholesalers	19
5112	Software Publishers	19
2361	Residential Building Construction	18
4233	Lumber and Other Construction Materials Wholesalers	15
4234	Professional/Commercial Equipment and Supplies Wholesalers	15
4236	Household Appliances and Electronic Goods Wholesalers	15
4239	Miscellaneous Durable Goods Wholesalers	14
6231	Nursing Care Facilities (Skilled Nursing Facilities)	13
2211	Electric Power Generation, Transmission and Distribution	11
3211	Sawmills and Wood Preservation	11
4231	Motor Vehicle and Motor Vehicle Parts and Supplies Wholesalers	11
3121	Beverage Manufacturing	9
6211	Offices of Physicians	8
4235	Metal and Mineral (except Petroleum) Wholesalers	7
5418	Advertising, Public Relations, and Related Services	7
4244	Grocery and Related Product Wholesalers	6
4246	Chemical and Allied Products Wholesalers	6
4451	Grocery Stores	6
4842	Specialized Freight Trucking	6
5222	Non-depository Credit Intermediation	6
5241	Insurance Carriers	6
5413	Architectural, Engineering, and Related Services	6
6214	Outpatient Care Centers	6
2362	Nonresidential Building Construction	5
3119	Other Food Manufacturing	5
3241	Petroleum and Coal Products Manufacturing	5
3329	Other Fabricated Metal Product Manufacturing	5
3399	Other Miscellaneous Manufacturing	5
4237	Hardware, Plumbing and Heating Equipment/Supplies Wholesalers	5
4251	Wholesale Electronic Markets and Agents and Brokers	5
6219	Other Ambulatory Health Care Services	5

3.3.2 A-OVRDC's Comparatively Strongest Sectors

As previously discussed, the A-OVRDC region produces a comparatively smaller share of HGCs (1.9%) from its total business population when benchmarked against the same rate for the United States (2.5%). These ratios were analyzed for HGC populations for major industry sectors to identify those sectors in which the A-OVRDC region demonstrated stronger HGC production, thus perhaps revealing regional advantages as economic development opportunities.

Of the eleven major industry sectors (Table 11), there were two sectors – Manufacturing and Retail Trade - identified in which the A-OVRDC region had a larger share of HCSs than the United States benchmark figures, and a third sector– Wholesale Trade – in which the A-OVRDC region lagged the United States, but which still generated the largest number of HGCs in the region. These sectors may represent the A-OVRDC region's strongest industry sectors for the development of future HGCs.

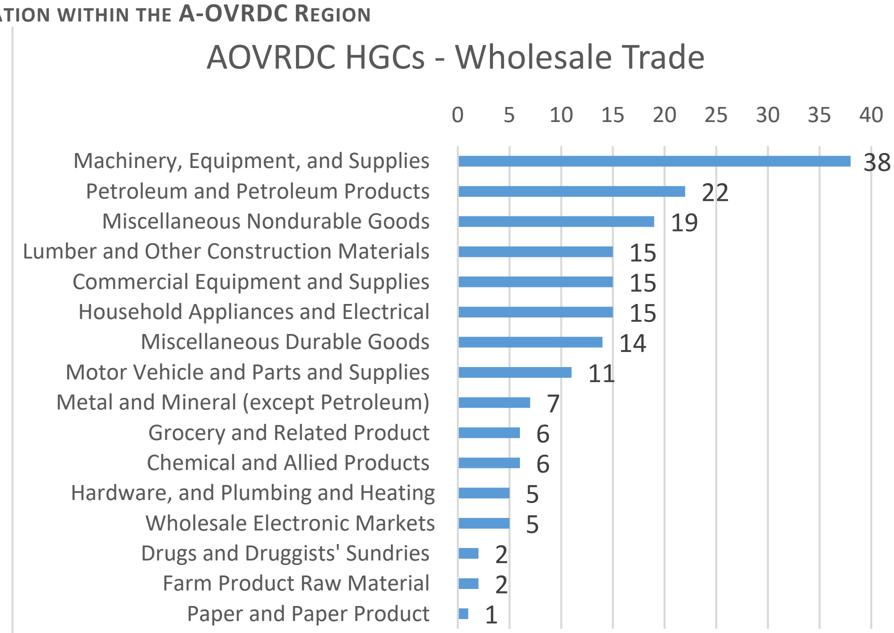
Table 11: Comparison of the Industry Distribution of HGCs in A-OVRDC region to the US

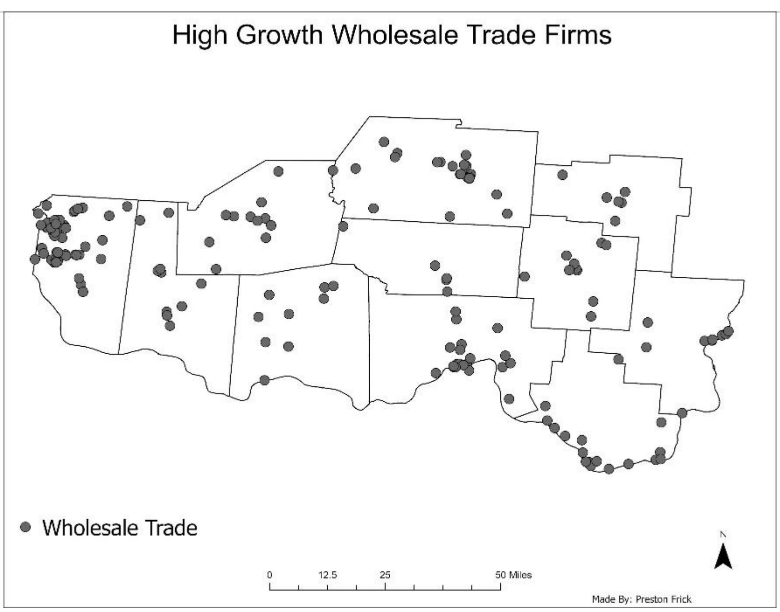
	HGCS		All Firms		HGC Share	
Major Industry Sector	**US**	**A-OVRDC**	**US**	**A-OVRDC**	**US%**	**A-OVRDC%**
Agriculture, Forestry	2,809	-	352,077	609	0.8%	0.0%
Mining	3,629	3	47,771	67	7.6%	4.5%
Construction	32,471	31	1,113,230	1,747	2.9%	1.8%
Manufacturing	**55,290**	**88**	**618,980**	**945**	**8.9%**	**9.3%**
Transportation	26,044	34	691,209	1,074	3.8%	3.2%
Wholesale Trade	**184,456**	**183**	**922,503**	**1,328**	**20.0%**	**13.8%**
Retail Trade	**56,488**	**105**	**3,360,090**	**5,042**	**1.7%**	**2.1%**
Finance, Insurance, Real Estate	34,407	17	1,789,960	2,617	1.9%	0.6%
Services	99,667	94	8,722,489	12,912	1.1%	0.7%
Public Administration	438	-	457,859	1,327	0.1%	0.0%
Non-classified	29	-	1,776,820	1,774	0.0%	0.0%
TOTAL	**495,728**	**555**	**19,852,988**	**29,442**	**2.5%**	**1.9%**

3.3.3.1 Wholesale Trade

Wholesale Trade was found to be the most prolific industry sector for HGCs in the A-OVRDC region, with 183 companies located across all eleven of the region's counties. (Figure 13) The rate of Wholesale HGCs development in the region (13.8%) was significantly less than that of the U.S. rate (20.0%). But the prominent number of the Wholesale Trade sector HGCs, and especially their ubiquity through the region, suggest that the sector is both a promising one for economic development outcomes. Most Wholesale Trade businesses in the A-OVRDC are likely serving with markets beyond the region's borders and are therefore engaged in Traded activities – to be discussed in a subsequent section – that effectively "import" additional revenues that expand the A-OVRDC economy.

FIGURE 13: 4-DIGIT NAICS CODE DISTRIBUTION OF WHOLESALE TRADE HGCS AND THEIR LOCATION WITHIN THE A-OVRDC REGION

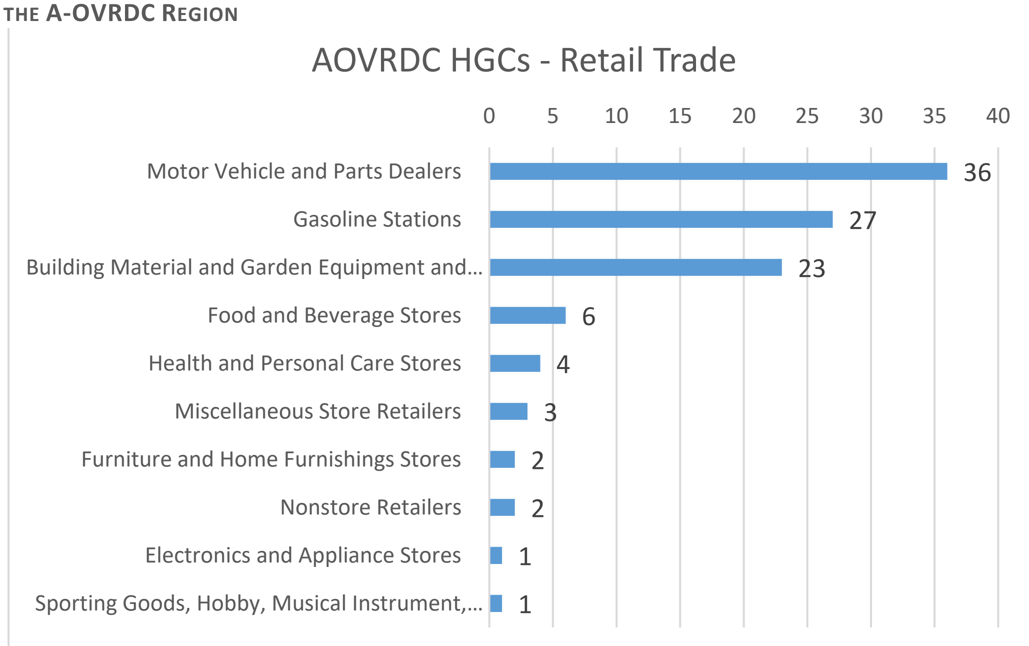


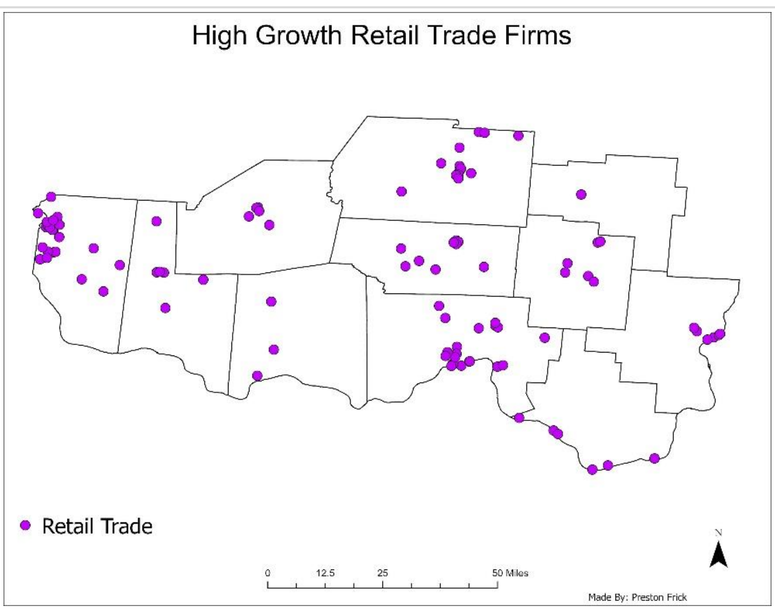


3.3.3.2 Retail Trade

Retail Trade is one of only two sectors identified in which the A-OVRDC region produced HGCs at a higher rate (2.15) share than the United States benchmark figure (1.7%). With 108 HGCs, Retail Trade was the second most prolific industry sector for the A-OVRDC region and also had location throughout all eleven counties. Unlike Wholesale Trade, companies in the Retail Trade sector generally engage in intraregional Non-Traded business activity, although there are likely prominent exceptions, especially in border counties. Rather than increasing its size, Non-Traded activity primarily circulates money within a regional economy. Nonetheless, they may make a significant economic contribution by reducing "retail leakage" – expenditures made outside of

FIGURE 14: 4-DIGIT NAICS CODE DISTRIBUTION OF RETAIL TRADE HGCS AND THEIR LOCATION WITHIN THE A-OVRDC REGION



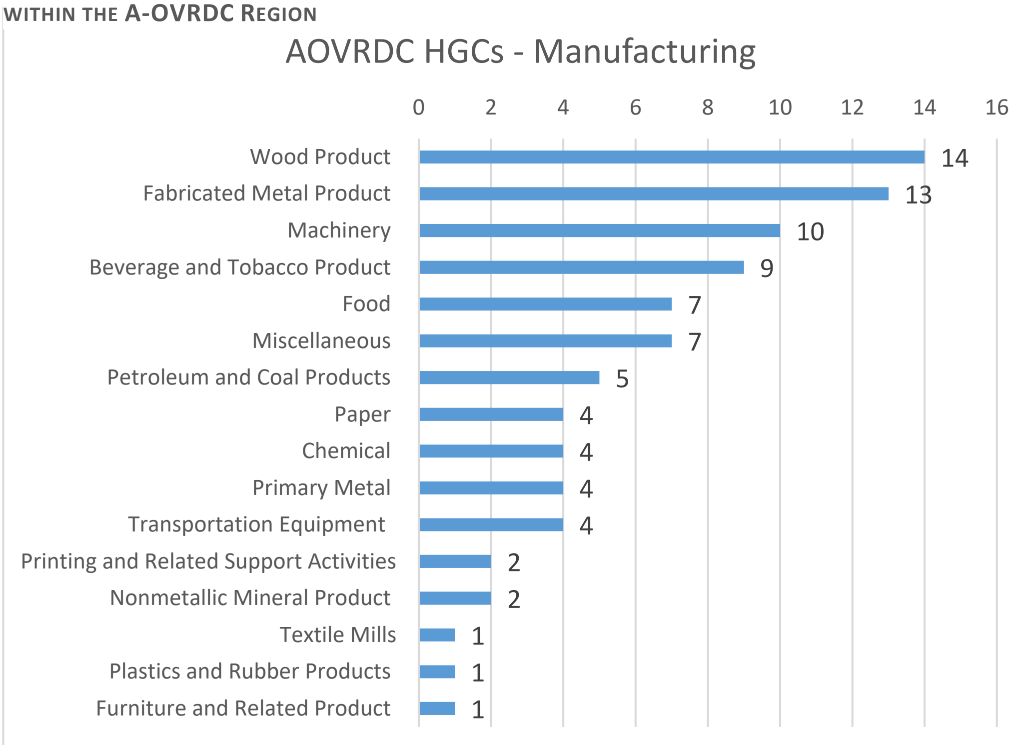


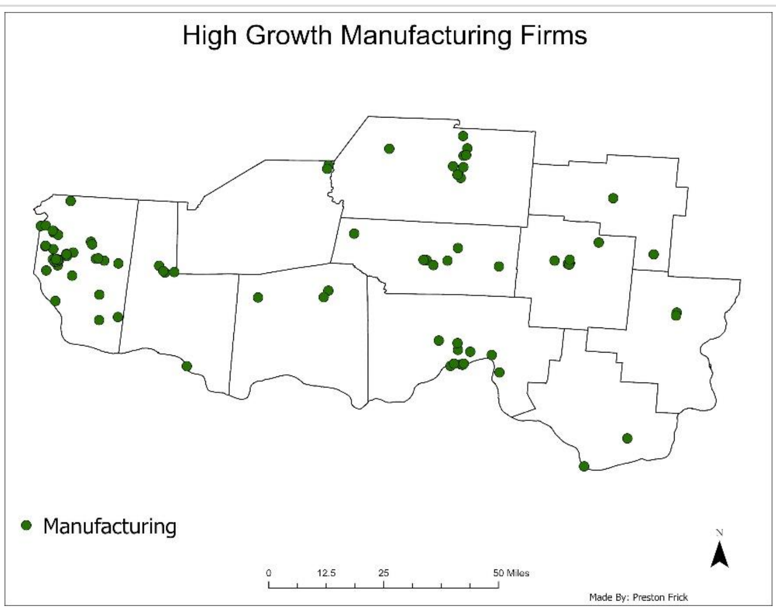
the regional economy – thereby helping to preserve the size and vitality of the A-OVRDC economy. (Figure 14)

3.3.3.3 Manufacturing

Manufacturing was the second of the A-OVRDC region's two sectors that produced HGCs at a higher (9.3%) share than the United States benchmark figure (8.9%). With 88 HGCs, Manufacturing was the region's third most prolific sector. (Figure 15) And like the Wholesale and Retail sectors, it also had companies located throughout all eleven A-OVRDC counties.

FIGURE 15: 4-DIGIT NAICS CODE DISTRIBUTION OF MANUFACTURING HGCS AND THEIR LOCATION WITHIN THE A-OVRDC REGION





Furthermore, as a Traded sector, Manufacturing companies expand the A-OVRDC regional economy through the external generation and importation of additional revenue.

4. ECONOMIC SIGNIFICANCE

All businesses contribute to their local economies by employing people and generating revenues through sales of goods and services. But businesses of a similar scale can have very different economic impacts depending on other characteristics. Research finding that high growth companies have a disproportionately large economic impact on their regional economies generally attribute their enhanced contributions to several factors:

- Their rate and level of their growth means their scale of employment and revenues is upwardly dynamic rather than static
- Their broad distribution by industry and geography disseminates economic benefits throughout their regional economies
- Their generally higher levels of productivity, through superior efficiencies and/or higher value goods and services production, increases economic activity relative to their scale
- Their predominant activity in Traded economic sectors imports revenues from external markets leads to increased local economic expansion
- Their local ownership status results in enhanced revenue retention and wealth creation

This study examined HGCs of the A-OVRDC region to see the extent to which they exhibited these characteristics, as well as the resulting economic impacts.

4.1 A-OVRDC Aggregate HGC Employment

This examination found that like other US HGCs, the HGCs of the A-OVRDC region contributed a disproportionately large number of jobs in the region. (Table 11) The region's 555 identified HGCs, which represented only 2.3% of all A-OVRDC businesses, accounted for 39,874 – more than 15% - of the region's total employment of 271,400 jobs.

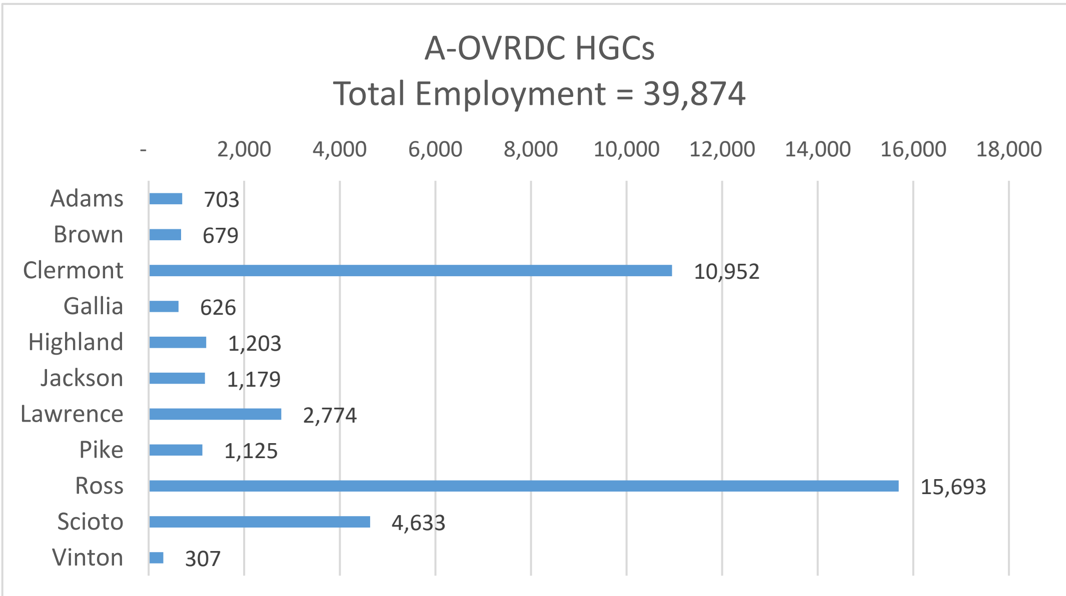
Table 11: HGC employment by A-OVRDC County

County	#HGCs	#All Firms	%HGCs	HGC Employees	County Employment	%HGC Employment
Adams	19	926	**2.1%**	703	10,800	**7%**
Brown	30	1,314	**2.3%**	679	18,700	**4%**
Clermont	180	7,206	**2.5%**	10,952	103,500	**11%**
Gallia	26	1,364	**1.9%**	626	11,500	**5%**
Highland	29	1,515	**1.9%**	1,203	16,700	**7%**
Jackson	34	1,327	**2.6%**	1,179	11,700	**10%**
Lawrence	39	2,117	**1.8%**	2,774	22,300	**12%**
Pike	34	1,225	**2.8%**	1,125	10,000	**11%**
Ross	77	3,422	**2.3%**	15,693	33,700	**47%**
Scioto	76	3,425	**2.2%**	4,633	27,300	**17%**
Vinton	11	357	**3.1%**	307	5,200	**6%**
Total	**555**	**24,198**	**2.3%**	**39,874**	**271,400**	**15%**

4.1.1 A-OVRDC County-level HGC Employment

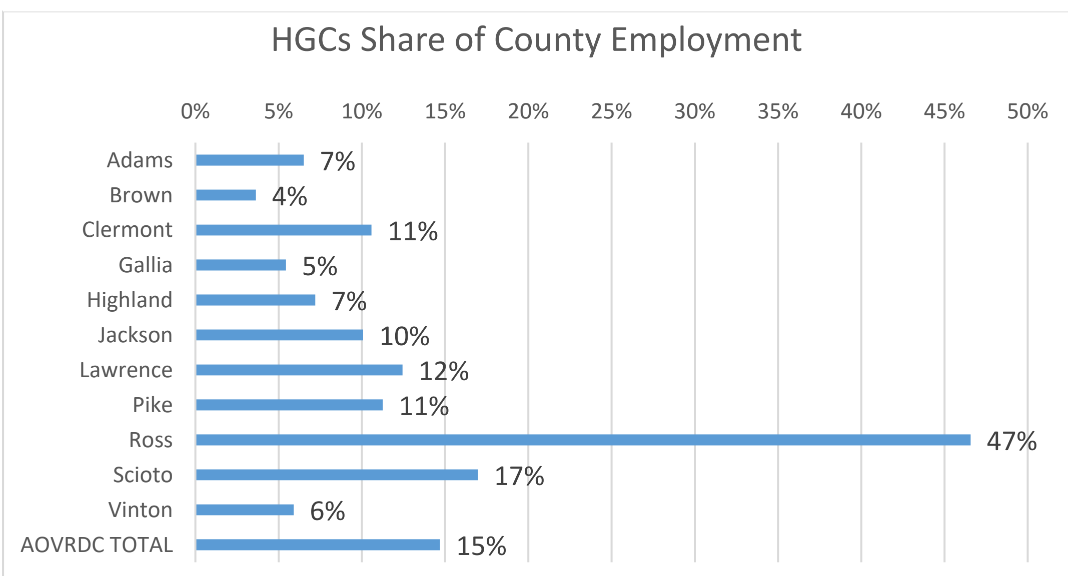
This disproportionately large regional employment effect was also reflected in the region's constituent counties. The number of jobs employed by HGCs varied dramatically by county, from a high of over 15,000 in Ross and nearly 11,000 in Clermont to as few as 307, 626, and 679 in Vinton, Gallia, and Brown. (Figure 16)

Figure 16: Distribution of HGC Employment by A-OVRDC County



Still, in each county HGCs jobs accounted for disproportionately large of total employment. Primarily thanks to the effect of large healthcare facilities in the county, HGCs account for an exceptional 47% of jobs in Ross County. More typically, HGCs provide double-digit percentages in Clermont (11%), Jackson (10%), Lawrence (12%), Pike (11%) and Scioto (17%). (Figure 17)

Figure 17: HGC Share of Total Employment by A-OVRDC County



4.2 A-OVRDC Economic Expansion

In addition to employment, HGCs grew the size of the AORDC economy by adding economic activity through revenue generation and retention to a greater extent than non-HGCs. In the aggregate, the region's 555 identified HGCs generated $13 billion in annual revenues. As with employment, the largest share (25%) of generated revenues arose from the few very large HGCs. But as with employment, the more numerous and widely dispersed HGCs in the $5 million to $20 million categories accounted for any even greater share (31%). (Table 12)

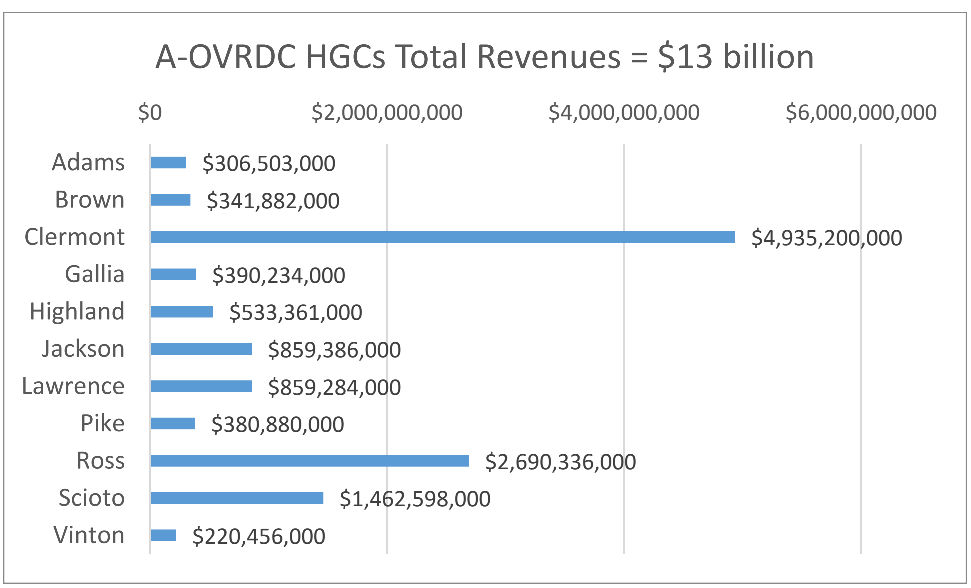
Table 12: Revenue of HGCs in the A-OVRDC Region

Annual Revenues	#HGCs	%HGCs	Revenues	% Revenues
$5-10 Million	309	56%	$2,118,126,000	16%
$10-20 Million	141	25%	$1,927,941,000	15%
$20-50 Million	70	13%	$2,173,000,000	17%
$50-100 Million	20	4%	$1,335,906,000	10%
$100-500 Million	11	2%	$2,201,377,000	17%
$500m - $1 Billion	4	1%	$3,223,770,000	25%
All A-OVRDC HGCs	555	100%	$12,980,120,000	100%

4.2.1 A-OVRDC County-level HGC Revenues

The total of $13 billion in HGCs annual revenues was accrued throughout the A-OVRDC region in amounts roughly proportional to the counties' share of the region's HGCs. Ross County, with its concentration of healthcare industry, was once again the exception with some $2.7 billion in HGC revenues. Clermont, with the largest number of HGCs, accrued a correspondingly large $5 billion in HGC revenues. But the economies of even the region's smaller counties - Adams, Brown, Pike, and Vinton – benefited significantly with aggregate HGC revenues of between $220 to $380 million. (Figure 18)

FIGURE 18: HGC REVENUE BY A-OVRDC COUNTY



4.3 HGC Productivity Increases Impact

The competitiveness of high growth companies is commonly attributable to their higher levels of productivity achieved through enhanced operational efficiencies, high levels of value-added goods or services, or a combination of both. A common measure of productivity is revenue per employee - calculated as a company's total revenue divided by its current number of employees. Revenue per employee is a meaningful analytical tool because it measures how efficiently a particular firm utilizes its employees. Ideally, a company wants the highest ratio of revenue per employee possible because a higher ratio indicates greater productivity. Revenue per employee also suggests that a company is using its resources—in this case, its investment in human capital—wisely by employing highly productive workers.

HGCs typically have higher ratios of revenues to employees than their industry peers, providing a competitive advantage that increases as the companies grow due to magnification through economies of scale capture. However, this factor can vary considerably by industry sector depending on the labor intensiveness of the sector. Across the United States business population, smaller businesses generates about $100,000 in revenue per employee while for larger companies, that figure is usually closer to $200,000. The nation's largest corporations, such as Fortune 500 companies, average $300,000 per employee Measured against those benchmarks, the A-OVRDC HGCs demonstrate the significantly higher levels of productivity expected of high growth companies. (Table 13) Revenue per employee figures for the region's HGCs range from $264,633 for the $5-10 million annual revenues cohort to a high of nearly $1 million per employee for HCGs with annual revenues of $50 – 100 million. (Table 13)

Table 13: Revenue by Employment for HGCs in the A-OVRDC Region

Annual Revenues	#HGC	Total HGC Revenues	Total HGC Employees	Average Revenues	Average Employees	HGC Rev/Emp
$5-10 Million	309	$2,118,126,000	8,004	$6,854,777	26	$264,633
$10-20 Million	141	$1,927,941,000	6,216	$13,673,340	44	$310,158
$20-50 Million	70	$2,173,000,000	5,710	$31,042,857	82	$380,560
$50-100 Million	20	$1,335,906,000	1,354	$66,795,300	68	$986,637
$100-500 Million	11	$2,201,377,000	7,090	$200,125,182	645	$310,490
$500m - $1 Billion	4	$3,223,770,000	11,500	$805,942,500	2,875	$280,328
All	**555**	**$12,980,120,000**	**39,874**	**$23,387,604**	**72**	**$325,528**

4.3 HGCs in Traded vs Non-traded Industries

Another factor contributing to the greater economic impact of HGCs is the predominance of their activity in traded vs non-traded market sectors. Non-Traded sectors consist of goods and services transactions contained within the regional economy. Companies active in non-traded sectors can grow by increasing their market share within that region, but their growth potential is effectively limited by the size and value of the regional market. In contrast, companies active in Traded sectors serve customer beyond their resident region, with their market prospects – and therefore their growth potential – expanded beyond the size of the local economy.

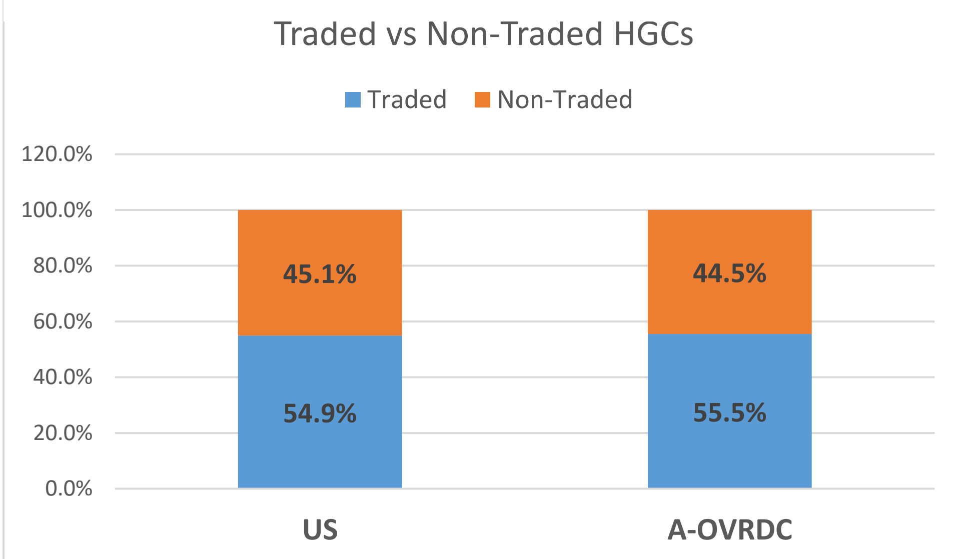
Most HGCs achieve their growth by serving Traded sectors where the potential for market expansion is much greater. Correspondingly, the extent to which a region's population of companies serve Traded sectors typically determines the growth of that region's economy as the revenues generated from external markets are imported into the region. This effect is accentuated by the higher productivity, and consequently higher revenues per employee, that characterize most HGCs.

Analysis of the A-OVRDC HGC population found that, (Table 14) based on their industry classifications, a majority of those companies (54.9%) were engaged in Traded market sectors. Not only is this a much higher percentage than that of the total population of businesses in the region (13.7%), but it was a significantly higher share than that of the US population of HGCs (45.1%). Thus, while the A-OVRDC region lags behind the United States in terms of the share of HGCs in its economy, its resident HGCs are nonetheless likely more impactful due their higher levels of Traded sector activity. (Figure 19)

Table 14: Comparison of the Market Status of Businesses in the A-OVRDC Region to the US

	HGCs		All Businesses	
Market Status	**US**	**A-OVRDC**	**US**	**A-OVRDC**
Traded	54.9%	55.5%	13.3%	13.7%
Non-Traded	45.1%	44.5%	86.7%	86.3%

FIGURE 19: COMPARISON OF THE PROPORTION OF TRADED TO NON-TRADED HGCS IN THE A-OVRDC TO THE US



4.4 Economic Diversification

The presence and expansion of HGCs serve to diversify local economies both in terms of industry, scale, and locations. Their distinctive combination of geographic and industrial distribution provides mechanism for HGCs economic benefit to broadly shared across the A-OVRDC region. The breadth of industrial sectors represented provides the opportunities to capitalize on a diversity of local economic resources. Each county in the A-OVRDC offers a distinct set of location and growth factors suited to different industries and business models.

Moreover, because the local ownership nature of HGCs means that siting and growth decisions reflect not just business inputs but the desires of the owners as well. Those owners are as likely to choose a community in which to start and growth their companies based on individual and family preferences provided basic business prerequisites are satisfied. For such reasons, HGCs locations are influenced by quality of life considerations that are highly selective and may favor AORDC locations that other types of businesses and industry might not consider.

5. HGCS AND CAPITAL FOR GROWTH

The study assessed the existing availability of private capital for current and future growth companies in the A-OVRDC region. It is very common that discussions of regional growth companies' capital needs begin with concerns over the disparity of venture capital distribution across the U.S. While it is true that historically just five U.S. metropolitan areas account for more than 80 percent of total U.S. venture capital investment, this perspective, by over-emphasizing the importance of only one form of growth capital, fails to address the availability of far more relevant other forms of growth capital. The study's assessment of the A-OVRDC region's HGC population characteristics found that the characteristics of most of these companies were best aligned with "growth capital" investors active in stages well beyond those of the venture capital market.

5.1 HGCs Capital Structure and Growth Capital Needs

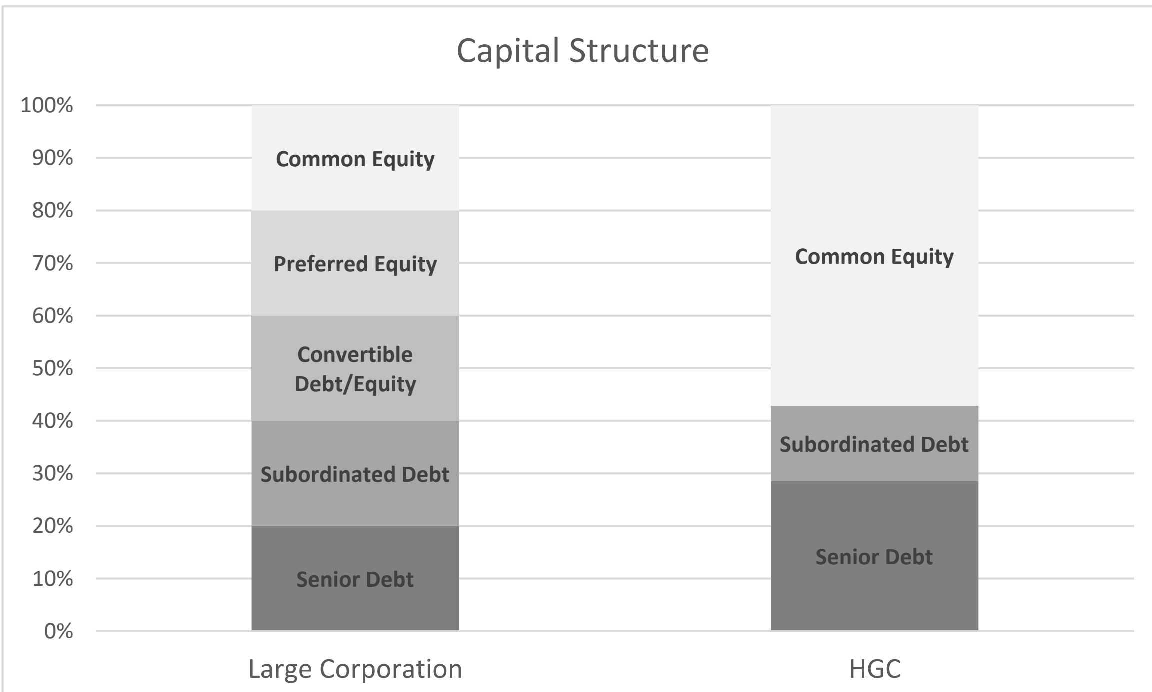
The type and amount of growth capital required to support the further development and expansion of HCGs is highly individualistic. Often growth-positioned companies face the need to optimize their capital structure prior to undertaking expansion strategies. Capital structure is the particular combination of debt and equity used by a company to finance its overall operations and growth. Capital structure therefore can be a mixture of a company's long-term debt, short-term debt, common stock, and preferred stock. (Table 15)

Table 15: Capital Structure Elements

Capital Structure Elements	
Senior Debt	Collateralized, lower risk loans with priority on the repayment list if a company goes bankrupt. Commonly from commercial lenders, banks, etc.
Subordinated Debt	A class of loans that ranks below senior debt with regard to claims on assets. For this reason, this block of the capital structure is more risky than senior borrowings with commensurately higher interest rate payments.
Mezzanine Debt/Equity	Subordinated debt that blends equity and debt features lent at higher interest rates than traditional debt providers, and usually reserve the right to trade some of their debt for equity.
Preferred Equity	Preferred equity has both debt and equity characteristics in the form of fixed dividends (debt) and future earnings potential (equity).
Common Equity	Common equity is the junior-most block of the capital structure and therefore represents ownership in an business after all other obligations have been paid off. For this reason, it comes with the highest risk and the highest potential returns of any tier in the capital structure.

For a large corporation, such as a publicly traded company, its capital structure typically consists of an often complex, combination of senior debt, subordinated debt, hybrid securities, preferred equity, and common equity. In contrast, the capital structure of HGCs, especially the smaller or younger ones, are typically much simpler. (Figure 20) HGCs are, with very few exceptions, closely held privately owned companies. These are companies which do not offer or trade company stock to the general public on the stock market exchanges, but rather the company's stock is offered, owned, and traded or exchanged privately, if at all. The great majority of HGCs would have a relatively small number of shareholders or company members with a limited introduction of outside investors since their founding.

FIGURE 20: COMPARISON OF THE CAPITAL STRUCTURE OF A LARGE CORPORATION TO AN HGC



The relative simplicity of HGC capital structure is a result of its development history and of necessity, rather than of strategic preference. A consequence is that that the capital structure a HGC used in its earlier stages of development may be inappropriate for both its current, larger level of activity and/or its targeted future activity. Often this is a consequence of an inability to access a border range of capital sources in the company’s earlier, more uncertain stages of development. But as the company matures and succeeds, as in the case of HGCs, it comes to be viewed by investors as more viable and more secure – and therefore a lower risk - making previously unavailable capital sources attainable. A-OVRDC HGCs require numerous sources of financing to support their growth objectives and working capital needs. Understanding the financial environment they face requires recognition of the relevant capital sources.

5.2 HGCs as Growth Capital Candidates

For example, although both venture capital and growth capital investors assume the risk involved while investing, these investment strategies vary greatly in factors such as risk profiles, cash flow perspectives, and growth targets. Venture capital investors generally target businesses at initial stages with less historical financials. Their portfolio companies therefore present higher risks - market, funding, technology - compared to more mature growth capital investment candidates typical among HGCs. Venture capital backed companies have low revenue and usually negative cash flow in contrast with growth capital investment prospects where there are typically sustained revenues and positive cash flows.

As documented the 2011 report "Accelerating Job Creation in America: The Promise of High-impact Companies", the largest cohort of U.S. high growth companies had an average age of 19 years after four years of growth, meaning that the typical age of firms poised for growth – and therefore in need of capital to support expansion, as 15 years. By this point they have survived the high risks inherent in entrepreneurial startups targeted by venture capitalists, therefore the risk involved in HGCs investment is minimized, while the potential for the return on investment remains relatively high.

This scenario closely matches the strategic trajectories undertaken by many high growth companies. They are relatively mature and larger businesses positioned to pursue large future growth prospects or for business operation expansion or for acquisition or entering a new market. Given the lower risk involved, the existing owners of such firms are unwilling to relinquish control to outside investors.

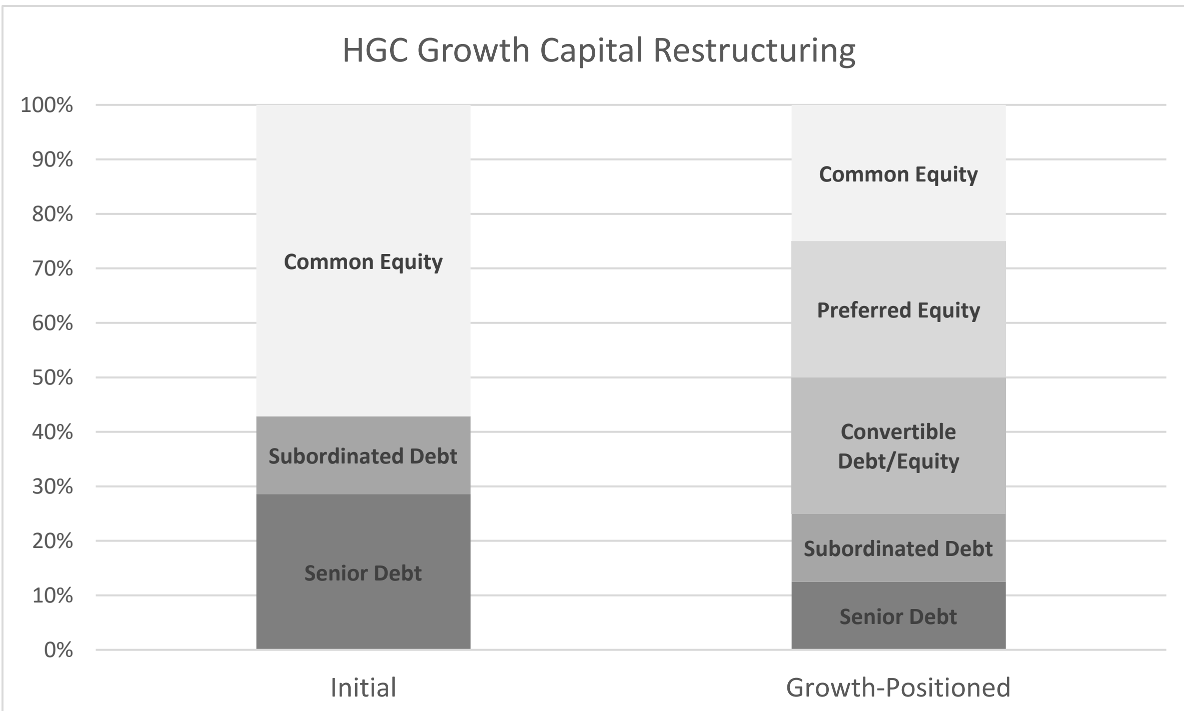
As an asset class, Growth Capital is a type of investment – and usually a minority investment rather than the majority ownership position usually taken by venture capitalists - in relatively mature companies that are looking for capital to expand or restructure operations, enter new markets, or finance a significant acquisition, but are unwilling to sacrifice a controlling interest in the business in return for the investment. Such companies nonetheless require growth capital because, while as established businesses they are able to generate revenues and profits, they are unable to generate sufficient cash internally to fund their growth strategies.

Growth Capital is a segment of a private equity asset class that is very distinct and separate from venture capital or leveraged buyouts. It works to provide ventures like providing high returns with minimum risk. The risk of the capital loss is moderate as compared to other investment firms. The holding period is three to seven years, where the target for the internal rate of return is around 30-40 percent. The capital invested can be targeted to multiple 3 to 7 times. The investors keep evaluating the risk-adjusted return profile of various investment alternatives. The companies involved in investment are already operating in an established market with proven products. The risk involved is only of the execution and management risk.

5.2.1 HGC Growth Capital Restructuring

Investment in a HGC which is intended to position the company for further growth typically involves a restructuring of its previous capital structure. Such restructuring seeks to both support the cost of expansion and enhance the company's financial robustness to undertake the additional risks entailed. This often involves Growth Capital in the form of equity and/o hybrid equity investment with the effect of reducing the company's debt to equity ratio. (Figure 21)

FIGURE 21: COMPARISON OF INITIAL CAPITAL STRUCTURING TO GROWTH-POSITIONED CAPITAL STRUCTURING FOR HGCS



In such situations, growth capital is provided in the form of equity, or various hybrid securities that include interest payments, yielding a minority ownership position in the company. This form of investment is not available from commercial banks. Instead, such growth capital is provided by a variety of sources spanning a variety of both equity and debt sources, including private equity and late-stage venture capital funds, hedge funds, Business Development Companies (BDC), and mezzanine funds.

5.2.2 Estimated A-OVRDC Growth Capital Demand

An estimate of the demand for growth capital by A-OVRDC HGCs was constructed by composing investment scenarios for representative company profiles drawn from region's two strongest sectors – Wholesale Trade and Manufacturing. (Table 16) Company profiles were based on the average scale HGC scale characteristics and expansion strategy modalities for their respective industry sectors.

Table 16: A-OVRDC Growth Capital Candidate Profiles

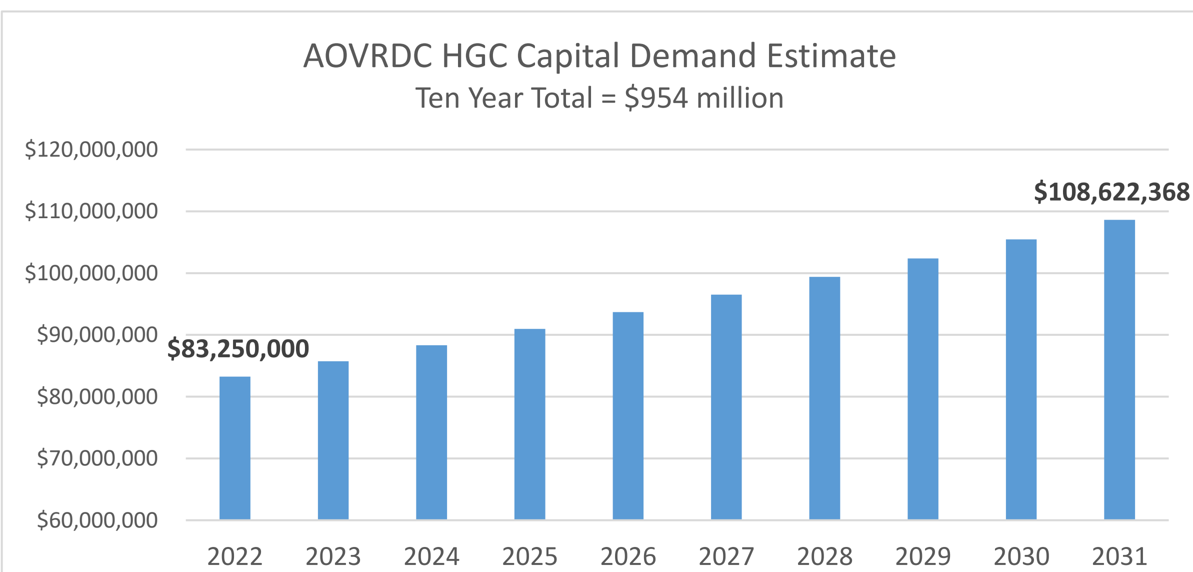
A-OVRDC Growth Capital Candidate Profiles		
Industry Sector	Wholesale Trade	Manufacturing
Annual Revenues	$26 million	$23 million
Employment	18	68
Growth Strategy	Facility expansion and distribution channel node acquisition	Production automation update and new product acquisition
Capital Sought	$15 million	$15 million

These profiles were used to develop a model estimating annual and aggregate decadal potential A-OVRDC HGC growth capital demand. The model used the following assumptions:

Average per company expansion capital requirement = $15 million
1% HGCs expanding annually = 555 HGCs x 1% = 5.5 annual average
Annual inflationary index of 1.03
Period of 10 years

This model produced a total annual growth capital demand of $83 million in 2022 and increasing on a inflation-adjusted basis to an annual amount of $109 million by 2031. The aggregate growth capital demand for the ten year period was $954 million. (Figure 22)

FIGURE 22: MODEL OF THE HGC CAPITAL DEMAND IN THE A-OVRDC REGION FROM 2022 TO 2031



5.3 HGCs and the Growth Capital "Middle Market"

What are the likely sources to supply the nearly $1 billion in A-OVRDC HGC growth capital demand estimated over the next ten years? In parlance of business finance the annual revenues of most HGCs would barely qualify them as "middle market" firms. The National Center for the Middle Market at The Ohio State University Fisher College of Business, a leading center for research and education, defines the U.S. middle market as companies with annual revenues between $10 million and $1 billion. Companies with slightly lower annual revenues - $5 million to $50 million - are often described as "Lower Middle Market" companies. This definition closely mirrors this study's HGC definitional parameters of HGCs. Following this financial market typology, the great majority (94%) of the A-OVRDC region's HGCs could be designated as lower middle market investment candidates.

The similarity between HGCs and the "middle market" designation extends to their economic significance as well. As the National Center for the Middle Market describes them, at the national, state, and local levels, in every corner of the country, it is middle market companies that are creating new jobs and driving economic growth in their regions and communities. Middle market companies also play important roles in every industry. This diverse segment reaches across all industries and encompasses publicly and privately held companies, family-owned businesses, partnerships, and sole proprietorships. While the middle market represents just 3% of all U.S. companies, it accounts for a third of U.S. private sector gross domestic product (GDP) and jobs. This is approximately the same significance researchers have ascribed to the economic role of high growth companies such as those identified in the A-OVRDC region.

5.3.1 U.S. Middle Market Capital Sources

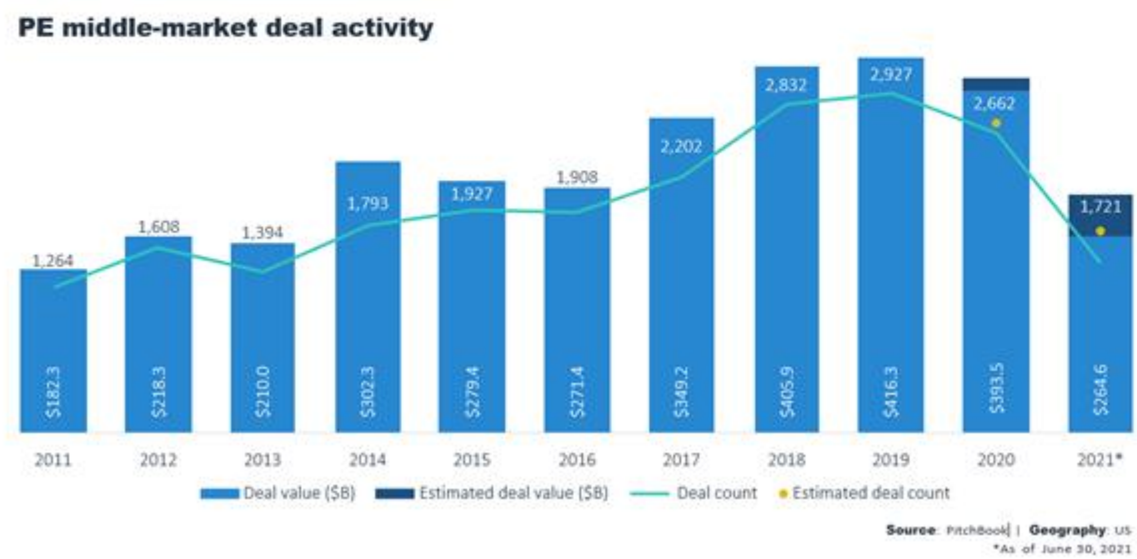
The National Center for the Middle Market estimates that the nearly 200,000 U.S. middle market businesses represent one-third of U.S. private sector GDP and employ approximately 44.5 million people. Like HGCs, these middle market businesses are diverse in form and function. They range from private and public, family owned, and sole proprietorships, are geographically diverse, and span almost all industries. The Center reported that these businesses outperformed through the financial crisis (2007–2010 period) by adding 2.2 million jobs across major industry sectors and U.S. geographies, demonstrating their importance to the overall health of the U.S. economy.

Such a large, fecund, and dynamic population of companies have attracted a proportionately large and responsive financial capital market response. A significant portion of the U.S. private equity industry - institutional lenders, non- traditional debt capital sources, debt/ equity fund managers, private equity funds, private debt funds - has evolved to serve the growth capital requirements of middle market companies through a diverse and creative portfolio of financial vehicles.

For example, PitchBook Data, Inc., a financial research company covering private capital markets, reported that just he first 6 months of 2021, private equity investors had completed 1,721 investments in the U.S. middle market with a combined value of $264.6 billion. This positioned 2021 to be the most active year on record in that market. (Figure 23)

However, it should be noted that most of that middle market investment took the form of company acquisitions as opposed to growth capital investment. Moreover, the average investment size was over $150 million, indicating that capital in middle market investment flows primarily to companies much larger than the typical AOVRC HGC. This calls into question the level of investment interest A-OVRDC HGCs given their much smaller scale of current operations, growth plans, and requisite investment need.

FIGURE 23:PE MIDDLE-MARKET DEAL ACTIVITY



Nonetheless, the Lower Middle Market, comprising companies with annual revenues between $5 million and $50 million - encompassing most A-OVRDC HGCs- continues to attract the attention of a number of private equity firms and boutique investment banks proficient in the segment. The challenge for A-OVRDC HGCs seeking growth capital from these entities will be distinguishing themselves sufficiently to garner the attention of non-regional investors.

Investment in closely-held, private-owned companies often entails that investors have significant participation in their portfolio to provide both guidance and oversight. Accordingly, lower middle market investors tend to favor companies located in their region to enable efficient interactions. To achieve geographic diversification, investments may be “syndicated” through co-investment with a local fund charged with the majority of portfolio company engagement. A paucity of private equity firms with a presence, or even investment activity, in the A-OVRDC region may hinder the competitiveness of its HGCs in securing growth capital.

5.3.2 Economic Development Growth Capital Sources

Recognition of the economic importance of entrepreneurship and small businesses has led to numerous public policy responses intended to increase access to capital. But, with a few exceptions, nearly all such programs emphasize alternative lending strategies for individual and small businesses unable to qualify for conventional sources of credit. The examples below illustrate such programs:

OVRDC Revolving Loan Fund

The Ohio Valley Regional Development Commission (OVRDC) aids businesses looking to expand or start up in the region through its GAP funding program. Available to potential entrepreneurs or private-for-profit business in Adams, Brown, Clermont, Fayette, Gallia, Highland, Jackson, Lawrence, Pike, Ross, Scioto, or Vinton County, the GAP program augments banks and private lenders through a revolving loan fund providing fixed asset and working capital loans. The maximum available loan size if $300,000.

Appalachian Growth Capital (AGC)

Another potential source of economic development motivated growth capital could be Ohio's Community Development Financial Institutions (CDFIs). CDFIs are U.S. Department of Treasury certified organizations with the explicit mission to lend capital at affordable rates and terms in under-served markets. CDFIs primarily provide access to credit and specialized loan products for people that may not qualify for a typical bank loan, but they also finance affordable housing, small businesses, nonprofit organizations, and commercial real estate.

Ohio has a network of eleven CDFIs serving statewide or regional markets. One such fund, the Appalachian Growth Capital fund, specifically serves a geographic market that includes the A-OVRDC region. Appalachian Growth Capital (AGC) is a Community Development Financial Institution (CDFI) that partners with local and regional banks as well as secondary lenders to support businesses in the 32 county Appalachian Ohio region. Like the OVRDC GAP revolving loan fund, AGC provides flexibly-termed debt to help businesses that have a hard time qualifying for conventional lending.

InvestOhio

In contrast with the above described alternative lending programs, InvestOhio is intended explicitly to encourage equity investments in qualifying companies. Launched by the State of Ohio in 2011, InvestOhio provides a non-refundable personal income tax credit to equity investors in Ohio small businesses. To qualify for the credit, eligible small businesses in which the investments are made must be Ohio-based and have a maximum of $10 million in annual sales. This make the InvestOhio program relevant for many A-OVRDC HGCS as 309 of the total 555 had annual revenues between $5 and $10 million.

Opportunity Zone Funds

Another potential source of growth capital is investment incented through the national Opportunity Zone program. Only recently implemented, the Opportunity Zone program provides tax incentives for investors in Qualified Opportunity Zone (QOZ) Funds that then invest in a variety of private sector activities located in economically distressed communities designated as "Qualified Opportunity Zones" (QOZ).

Opportunitydb.doc, a website that tracks Qualified Opportunity Zone (QOZ) Funds nationally, reports that in 2021 there were 12 QOZ Funds with an investment objective that specifically identify Ohio as a target market. (Table 17) Consistent with the experience of most Opportunity Zone investment nationally, the primary targets of these funds are real estate rather than the growth capital required by A-OVRDC HGCs.

Table 17: QOZ Funds identifying Ohio as a Target Market

Fund Name	Investment Target	Fund Size
CBUS Opportunity Zone Fund	Real Estate	$50M
Cleveland Opportunity Zone Fund Premium Listing	Real Estate	$50M
Nest Opportunity Fund Premium Listing	Real Estate	$50M
Accredited Capital	Real Estate	$25M
Alpha Opportunity Zone Fund I	Real Estate	$250M
CLE OZ Fund	Real Estate	$20M
Community Outcome Fund	Business, Real Estate	$500M
Decennial Opportunity Zone Fund I LLC	Real Estate	$500M
Kunst QOZF	Real Estate	$10M
LNWA OZ Fund I, LLC	Real Estate	TBD
Milhaus QOZ Fund II	Real Estate	$78M
Woodforest CEI-Boulos Opportunity Fund	Real Estate	$22M

5.3.3 A-OVRDC HGC Growth Capital Findings

An assessment of the current availability and activity of both private equity middle market investment and the various economic development-oriented sources of growth capital raises concerns about their relevance and sufficiency to meet the estimated $954 million in A-OVRDC HGC growth capital demand from 2022 to 2031. While the middle market investment industry is growing in both the amount of capital deployed and the number of deals closed, such investment appears to increasingly favor companies in the larger end of the middle market spectrum as evidenced by the record high median deal investment amounts of recent years. So, although there remains much interest by smaller private equity firms in the lower middle market segment that would include most A-OVRDC HGCs, the scarcity of private equity firms serving the A-OVRDC market may make it difficult for HGCs from the region to successfully compete for the attention needed to initiate and consummate investments.

To date, economic development policy driven initiatives that seek to enhance capital access for small businesses largely do not address either the types or amount of growth capital required by A-OVRDC HGCs. There are numerous national, state, and local alternative lending programs that offer variations on revolving loan funds. But these do not offer the forms of equity and near-equity growth capital sought by HGCs as they realign their capital structures for expansion. In Ohio there are efforts to increase the availability of equity capital, but these have focused on the seed venture capital needs of startup and earlier stage technology businesses and are therefore inappropriate or inadequate to HGCs growth capital requirements. The Opportunity Zone programs at the state and national levels hold some promise as they are theoretically capable of providing appropriate forms of capital in sufficient amounts. But the investment emphasis of nearly all existing Qualified Opportunity Zone funds are in the real estate sector rather than the business finance sector of HGCs. In remains to be see where this trend will hold.

The Ohio Capital Fund (OCF) perhaps offers a model by increasing the supply of growth capital for HGCs in the A-OVRDC and elsewhere in Ohio. That fund was established to increase the amount of private investment capital available for seed- and early-stage Ohio-based business enterprises by serving as a "fund of funds" investing state-directed capital into a portfolio of venture capital funds that have targeted Ohio early stage companies as part of their investment strategy. As of June 2021, the OCF – along with its partner funds - had invested nearly $1.4 billion in less than 15 years. During 2021 there have been discussions on expanding the OCF to similarly include smaller private equity funds targeting Growth Capital investment in Ohio. Such an initiative could bring welcome attention and growth capital to the likely under-recognized opportunities offered by A-OVRDC HGCs.

6. CONCLUSION

This study was undertaken to identify a population of high growth companies (HGCs) in the eleven counties of the Appalachian Ohio Valley Regional Development Commission region and understand their role in the region's economy. The study found that the region is home to 555 such companies and that, while they occur at a lower rate than do similar businesses elsewhere in the U.S., they nonetheless have a disproportionately large positive economic effect in the region. However, for this population of companies to continue to prosper they will need to access to forms and amounts of growth capital that will likely be a challenge to obtain.

HGCs are a Small but Potent Population

Only 555 companies in the A-OVRDC region qualified as HGCs, and they occurred at a smaller rate on a per capita basis, and as a share of the business population, when compared to similar companies in Ohio and the U.S. While the A-OVRDC region generates HGCs at a lesser rate than the U.S. and Ohio, it is nonetheless producing them at scales comparable to national benchmarks in terms of both revenues and employment. So, while the 555 HGCs represented only 2.3% of all A-OVRDC businesses, they accounted for 39,874 – more than 15% - of the region's total employment.

The characteristics of the AVORDC's HGC population are such that they have an especially significant role in the region's economy. They have high levels of productivity and are engaged in extra regional trade that imports revenues that expand the A-OVRDC economy. And their local ownership status means that more of that money remains in the region, circulating among neighboring businesses and residents.

Additionally, their geographic distribution means that the economic contributions of HGCs accrue throughout the region, with each of the A-OVRDC counties being home to several of the 555 companies. Within the region, the concentration of HGCs per all businesses in a county ranges from a high of 3.1% in Vinton County to a low of 1.8% in Lawrence. At 2.5%, Clermont County, with by far the largest number of HGCs (180), is only slight above the regional figure (2.3%). But that is not a significant difference. What may be more meaningful is that several smaller A-OVRDC counties host a larger share of HGCs, demonstrating the economic relevance of HGCs across the region.

HGCs Differ From Entrepreneurial Assumptions

The region's HGCs are locally owned, successful entrepreneurial businesses that differ from popular perceptions of technology- based startups promulgated by the high profile successes of firms such as Facebook, Google, and Amazon. Instead, they are more mature companies that grew slowly for years before entering a period of rapid growth. And rather than being concentrated in a narrow range of technology industry sectors, A-OVRDC HGCs are engaged across a variety of industry sectors in the region.

In particular, the study found that for A-OVRDC's HGCs, high rates of company growth – whether in revenues or employment – is less significant that the scale yielded by such growth.

Startup businesses with single digit numbers of employees can have exceedingly high percentage growth rates without producing the larger scale economic outcomes of more established – but nonetheless still entrepreneurial – HGCs growing at less gaudy rates. The result is that the average A-OVRDC HGC had annual revenues of $23 million and 72 fulltime employees, far exceeding the averages of all businesses in the region.

Perhaps their most unusual and unexpected nature is their consistent presence across industry sectors. Rather than being more common in certain high technology or innovation-based sectors, A-OVRDC HGCs were as likely occur in "traditional industry" sectors as in technology sectors, just as frequently in service industries as in information or manufacturing ones. Comparing their occurrence to national benchmarks revealed that the region's comparative advantages were in Wholesale Trade, Manufacturing and Retail Trade, suggesting that these sectors may represent the A-OVRDC region's most promising sectors for the development of future HGCs.

HGCs Face Growth Capital Challenge

An assessment of the availability of capital to support current and future growth companies in the A-OVRDC region found that policy efforts addressing access to capital overlook a reasonable concern for the adequacy of appropriate capital for its HGCs. Growth-positioned HGCs need to optimize their capital structure prior to undertaking expansion strategies. But rather than venture capital or conventional debt, HGCs will require forms of middle market private equity - mezzanine financing, convertible debt/equity, hybrid securities etc. – that is neither resident in the region nor currently supported through economic development intervention programs.

The study found that, based on the average capital requirements of A-OVRDC HGCs and expected business expansion scenarios, the region's HGCs would constitute an aggregate growth capital demand of $954 million in more than 50 investments over the next ten years. The most abundant source of such financing would be private equity firms focused on the "Lower Middle Market" of companies with annual revenues between $5 million and $50 million. But despite much interest by smaller private equity firms in this segment that, a scarcity of resident firms serving the A-OVRDC market may make it difficult for HGCs from the region to successfully compete for the attention needed to initiate and consummate investments.

These findings suggest that the Ohio economic development policy emphasis on increasing capital access should be expanded beyond venture capital and small business lending to address the availability of private equity growth capital for HGCs as well. The Opportunity Zone programs at the state and national levels, and the precedent of the Ohio Capital Fund (OCF) may provide models for the discussion and design of such an initiative.

END