

FUELING ECONOMIC GROWTH THROUGH ENTREPRENEURSHIP

A Study of Southwestern Utah Conducted by Jonathan E. Palmer, Ali Hussein, & Ryan T. Allen



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EXECUTIVE SUMMARY

This study examines Southwestern Utah's potential for entrepreneurially-driven economic growth. Given the very tight timeframe within which this study had to be conducted, it does not pretend to be exhaustive. Rather, it seeks to provide an initial *assessment* of the region's current situation while providing several *recommendations* based on experience and the work of leading scholars.

Assessment

Using a combination of large-N, case study, and field research methods, this study identified various strengths, weaknesses, opportunities, and threats that are relevant to the region's future growth.

STRENGTHS

Among the strengths identified were a **growing economy** that provides rich soil in which an entrepreneurial ecosystem can grow; a **location** that provides a durable source of competitive advantage; an uncommon level of **unity** among its citizens and leaders; and finally a **pioneering culture** that is conducive to entrepreneurship. Together, these strengths put Southwestern Utah in a favorable position for fostering an entrepreneurial ecosystem.

WEAKNESSES

This study also identified several weaknesses: a severe **lack of risk capital** in the region; a tendency to **under-compensate employees** relative to their worth; fairly **siloed social circles** that may inhibit entrepreneurial activity; and both inter- and intra-regional **brain drain**. The report views these weaknesses as surmountable and suggests ways to address them.

OPPORTUNITIES

In terms of opportunities, the study highlights: the many '**alumni**' of the region that would like to return; the abundance of **experienced retirees** who could mentor entrepreneurs; the region's suitability as a **second headquarters** for the innovative arms of established companies; the many **success stories** that can be leveraged to accelerate growth; and the opportunity to build **international connections** with the many visitors to the region as well as through University exchange programs.

THREATS

The study then briefly notes three high-level threats that have plagued ecosystem system development elsewhere, and which Southwestern Utah may face. These include leaders optimizing around their **narrow constituencies** rather than the overall interest of the region; **unbridled growth** that undermines future growth; and **misguided investments** in facilities or programs that are not what entrepreneurs actually need.

Recommendations

In light of this assessment, the report then provides several recommendations:

1. Forming a "Heavyweight Team" that is an alliance between government, university, entrepreneurial, and business communities. This team would operate independently of any one of these institutions or communities and would be guided by clearly defined and carefully measured goals.

2. Expanding the Networks of individuals, companies, cities, and the region by:

- Developing an active VC solicitation program
- Launching an ongoing symposium that brings in outside experts
- Developing relationships with comparable areas in the US
- Multiplying ties between the region's schools and (inter)national companies
- Identifying and attracting alumni to return

3. Targeting Clusters of Related Variety based on a combination of what industries are currently growing in the region, national trends in venture funding, and the region's capabilities. Our analysis triangulated between these three factors to identify the following eight promising areas:

- Information Technology (NAIC: 51)
- Healthcare & Social Assistance (NAIC: 62)
- Manufacturing (NAIC: 31)
- Professional, Scientific, & Technical Services (NAIC: 54)
- Wholesale Trade (NAIC: 42)
- Transportation and Warehousing (NAIC: 48)
- Finance and Insurance (NAIC: 52)
- Arts, Entertainment, & Recreation (NAIC: 71)

Looking to the Future

While this study introduces a number of important ideas and identifies several important trends, it does not seek to be the final word. Rather, this study's goal is to open up the way for future conversation, research, and action that will help Southwestern Utah achieve its potential as an entrepreneurial ecosystem.

INTRODUCTION

Entrepreneurial ecosystems are the holy grail of economic development because of the job growth, innovation, and wealth they tend to produce. The power of these ecosystems lies in their unique combination of focus and flexibility: they are *focused* on fostering an entrepreneurial culture and community, and over time tend to become focused on a narrow set of industries. However, they are also *flexible* – flexible in that they allow individual entrepreneurs (or entrepreneurial ventures) to pursue opportunities that they themselves identify. Their flexibility is also manifest in how ideas, talent, and technologies tend to flow across organizational and social boundaries, enabling human beings to push the boundary of what is possible.

But these strengths (focus and flexibility) are precisely why developing strong ecosystems remains elusive for institutions like governments, universities, and development practitioners. Focus comes easily to these institutions – after all, institutions are by definition rigid, and so they can provide the continuity, and predictability upon which our society depends. But in the process of providing focus, these institutions often inadvertently quash the flexibility upon which entrepreneurial ecosystems depend.

This report seeks to provide guidance to the Business Resource Centers of Southern Utah University and Dixie State University – as well

as other stakeholders in the area – on how to pursue this quest, given the distinct capabilities and limitations of Southwestern Utah. This report provides no easy answers, partially because there simply are none. But more importantly, we don't presume to know all of the answers. After all, you, reading this report, are the experts on Southwestern Utah's economy. What we offer is not so much what to think, but how to think about the problem.

Our way of thinking about entrepreneurial ecosystems is informed both by research and experience. Past research has provided us several 'theoretical lenses' through which we examined the case of Southwestern Utah, which is the focus of our current research. We also draw on the received wisdom from similar efforts to develop entrepreneurial ecosystems across the US and around the world. Together, these provided a more reliable set of insights than if we relied on just one or the other.

This report is organized into two main sections: **Assessment** and **Recommendations**. Within the first section, we identify specific strengths, weaknesses, opportunities, and threats. Then in the second section, we make recommendations to take advantage of Southwestern Utah's distinct capabilities while overcoming some of the region's limitations. This entire report is informed by a number of guiding principles as well as our research methodology. We will now briefly review what those are before moving on to the body of the report.

7 KEY PRINCIPLES

Principles are powerful because they apply across circumstances and over time. The following key principles guided our methodological approach to this study, informed what empirical findings we report here, and are commendable principles for those seeking to foster a vibrant ecosystem:

1. People Matter

Growth strategies that leverage the unique capabilities, creativity, and culture of real people are more likely to succeed than ones that place hope in technological fads or empty buzz words. Simply put, the greatest assets that any region has are its people. This is true on at least two dimensions:

People are the wellspring of innovation.

Human beings have a unique ability to identify problems, flexibly solve those problems, and develop processes or technologies to scale their solutions for the benefit of others. Generations of Southwestern Utahns have built up a stock of ‘human capital’: both in specific industries (such as healthcare, agriculture, construction) as well as in general knowledge (through schools and research). This is a huge advantage, and is an essential part of the knowledge-based growth strategy we propose in this report.

People accomplish more by working together

The second way people matter is their ability to come together behind a common goal. When the goal is regional economic growth, it is especially important for all stakeholders—from established businesses, startups, and venture funding, to government and universities—to work together in a coordinated, complementary way.

Based on our own experience, as well as the work of MIT Professors Fiona Murray and Phillip Budden, who are experts on innovation ecosystems, we can confidently say that this is a crucial element of the growth equation. Fortunately, this is already happening in Southwestern Utah—for instance through the 23-year-running St. George Area Economic Development Summit. This report will suggest ways to supplement and focus this strength of the region.

2. Discovering Comparative Advantage

At the end of the day, a region’s businesses must compete with other businesses. Except under rare circumstances, a smaller company with fewer resources cannot beat a larger, better-resourced company at its own game. The same goes for regions. If Southwestern Utah tries to beat Silicon Valley at Silicon Valley’s game, it will lose. And if Southwestern Utah tries to beat Northern Utah at Northern Utah’s game, it will likewise lose. Success can only come in the long run as a region discovers and focuses on its comparative advantage – which is defined as the ability of a group to carry out an activity more efficiently than another. We say ‘discover’ comparative advantage because it is not always readily apparent at a regional level what that advantage is. And because comparative

advantage is just that – comparative – it is always relevant to the competitors and environmental conditions a business/region is facing, and therefore must be continually re-evaluated and refined (see also Principle 7).

3. Knowledge Creation is Essential to Growth

Knowledge is a unique substance. As it's shared, it doesn't shrink—it grows! This means that there are increasing returns to knowledge creation. But not all knowledge is the same. Research has shown that simple knowledge flows easily (via the internet and other communication technologies) but more complex and tacit forms of knowledge are 'sticky' and won't flow unless the distance between knowledge-holder and knowledge-seeker is deliberately closed. The primary way to do this, as mentioned previously, is through face-to-face interaction. But this can be supplemented by new 'open innovation' approaches that help close the distance between knowledge-holders and knowledge-seekers. By bridging the physical, social, and intellectual distance between people, these technologies are opening up new possibilities for places (like Southwestern Utah) that have historically been more isolated than major urban centers.

4. Innovation = Ideas + Real World Problems

No successful innovation was ever developed 'in a vacuum.' Impactful innovation occurs when great ideas meet real-world problems. Ideas

need the disciplining force of real-world problems to give them definition and purpose. Innovation efforts that neglect this crucial combination of ingredients are in danger of having no real impact. It is paramount, therefore, to develop linkages between knowledge creators and those on the 'front lines.'

Large groups of people in Southwestern Utah have 'front line' knowledge of some very unique areas – such as trucking, agriculture, and care of the elderly. These areas may seem commonplace or ordinary to most in Southwestern Utah – but that's the point! Their familiarity to people in Southwestern Utah puts the region at an advantage in successfully innovating and competing against other regions.

This combination of ideas and real-world problems is important on another level: matching supply and demand. Too many regions go astray when they seek to be innovative for the sake of being innovative. This often results in more of a caricature of innovation than the real thing. This is an especially important problem when these flashy efforts come at the less glamorous work of identifying what is in demand in the economy and then matching that with what the area can feasibly supply.

5. Balancing Specialization & Variety

There is a tension between variety and specialization in any ecosystem. As mentioned before, ecosystems tend to focus on a particular

industry over time, developing a specialized knowledge and skill base. This is both good and necessary. However, taken to an extreme, specialization can drive out the variety that is necessary for innovation, as well as the diversified risk that comes from not having ‘all your eggs in one basket.’

The ideal is to develop “related variety” in terms of the industries, companies, and human capital. Though difficult to accomplish, striving toward this ideal will help ensure that there isn’t too much duplication or unhealthy local competition, and also that cross-pollination of new ideas and approaches can occur.

6. Developing a Shared Language

The term ‘entrepreneurship’ means different things to different people, probably because entrepreneurship can take so many different forms. Terms like “startups,” “small businesses,” and “growth companies” are often used interchangeably to describe the complex and varied forms entrepreneurship takes. Even scholars who devote their lives to studying these things cannot seem to agree on the right vocabulary. But beneath the confused terminology, we do know a few important things about entrepreneurship as it relates to economic growth: one is that while small businesses do account for a majority of employment in the US, a much smaller subset of these small firms are what account for the majority of economic growth. Why do these two kinds of firms exist?

One way to think about this is that two seeds may look quite similar and may be planted in similar soil, but one may contain DNA that gives it the potential to grow into a huge tree while the other can only ever grow into a shrub, even if it is well taken-care-of. A laundromat, for instance, is inherently constrained by the need to serve local customers and by the technology employed.

Some economists distinguish between these two kinds of entrepreneurship as ‘local vs. traded’ industries. Others, such as Professors Murray and Budden of MIT, call them ‘Innovation-Driven Enterprises’ (IDEs) to distinguish them from ‘Small and Medium-Sized Enterprises’ (SMEs):

“In contrast to most ‘small and medium-sized enterprises’ (‘SMEs’), IDE start-ups are formed with the explicit intent to build competitive advantage based on new innovations (that can have their origins in scientific insights, technical change, new business models, supply chains, etc.), to grow quickly and scale well beyond local markets, and aspire to significant growth.”

These key components – competitive advantage, innovation-driven growth, and scalability beyond the local market – are the hallmark of companies fostered by robust entrepreneurial ecosystems. In this report, most of our assessments and recommendations are geared toward fostering the formation of IDEs. We hasten to note, however, that IDEs are not inherently better than SMEs. A tree, to continue the metaphor, may be able to grow bigger, but it may also be more prone to fall due to strong

winds (and fall harder). The truth is that these two types of companies rely on one another symbiotically (hence the 'ecosystem' metaphor!): SMEs often provide essential services upon which IDEs rely; and IDEs bring prosperity to the region that improves business for the SMEs. To use another metaphor, 'all boats rise with the tide.' But there is evidence that certain kinds of entrepreneurial ventures tend to introduce 'tide-raising' innovations. A healthy ecosystem must foster both SMEs and IDEs, and the first step to doing that is understanding the distinction between the two.

7. Strategy is a process, not an event

Strategy is often thought of as ideas captured in a document. In this view, once the document is published or unveiled, the strategy is 'set.' The assumption is that now that everyone knows what the strategy is, it should 'just happen.' We take a different view: strategy is a process – an iterative cycle of developing plans, executing, learning, adjusting, and then executing them again. No matter how good strategic ideas and analyses are, they are insufficient if not backed by a process that brings relevant stakeholders together on a regular basis to continually refine and recommit to the strategy they are co-creating. Reports like this one can inform this process, but are no substitute for it. ■

METHODOLOGY

We combined large-N, case study, and field research techniques to study several dimensions of Southwestern Utah's budding entrepreneurial ecosystem:

1. Trends Affecting Southwestern Utah

INDUSTRY GROWTH: using industry data from the US Census, we identified what industries are growing in Southwestern Utah, as well as in comparable areas.

ENTREPRENEURIAL FUNDING: using CrunchBase's data set of 30,000 US startups that received funding over the last 5 years, we identified both national and local funding trends. We cross-checked this information using PitchBook, the industry gold standard.

HUMAN CAPITAL FLOWS: looking at county-specific data and general data on migration patterns of alumni from higher education institutions in Southwestern Utah.

2. Distinctive Elements of Southwestern Utah

We spoke with scores of leaders and stakeholders in Southwestern Utah using a semi-structured interview format to gain their perspectives on the region's capabilities and limitations. We also conducted research using secondary sources (news articles, research reports, promotional materials, etc.) to identify other elements that are relevant to the area's entrepreneurial ecosystem.

3. Comparable Regions to Southwestern Utah

We used national census and industry data to identify regions that are comparable to Southwestern Utah in terms of population, industry composition, etc. We then used comparative case study techniques to identify factors that seem to have made a difference in these comparable regions.

4. Promising Industries in Southwestern Utah

Using even more granular industry data than before, we identified industries in the region that have grown both in terms of increasing employment and rising wages. Finally, we conducted research on current dynamics and future trends in these industries to assess their 'fit' with Southwestern Utah.

What is an entrepreneurial ecosystem?

About a century ago, social scientists borrowed the concept of 'ecosystems' from biologists. Biologists had coined the term while studying how the different species of plants in an area developed into interdependent systems that enabled them to evolve over time as they adapted to changing environmental conditions.

Business scholars have used the concept of ecosystems to explain the oft-observed pattern of related firms clustering in close geographic proximity to one another. Prominent examples are Silicon Valley, Seattle, Boston, and Lehi for technology; for medicine several examples include San Diego, San Francisco, Boston, Cleveland, and Houston.

Firms in these 'clusters' tend to produce higher levels of innovation, job creation, and wealth than non-clustered firms, and therefore are highly desired. Yet they are difficult to replicate. This is because they are as much a social phenomenon as they are a business or financial one. Scholars point to the norms, practices, and trusting relationships that form in these clusters as key enablers of the rapid recombination of ideas and resources that is key to innovation success.



PART I: ASSESSMENT

STRENGTHS

Given the mandate of this study, the following four sections focus specifically on *Southwestern Utah as an entrepreneurial ecosystem*. There are undoubtedly many strengths / weaknesses / opportunities / threats to the region that could be discussed, but most of those are outside the scope of this report. By focusing on elements that directly relate to fostering an entrepreneurial ecosystem, we believe that we can provide more relevant and reliable analysis. We begin by noting several strengths of Southwestern Utah as an entrepreneurial ecosystem:

1. A Growing Economy

From 2011 to 2016, the St. George metropolitan statistical area (MSA) grew faster than any other MSA of similar size. This growth took various forms—population growth, growth in number of employees (36%), and wage growth (15%)—to name a few. Other forms of growth are harder to measure (and therefore do not directly show up in the growth statistics) but are no less significant. For instance, those who moved into the area increased the overall pool of knowledge, experience, and wealth in the region. All of these forms of growth contribute to the rich soil in which this entrepreneurial ecosystem is growing.

Beyond the quantity of this growth, our analysis revealed several insights into the *quality* of this growth. For instance, by ‘drilling down’ to a more granular view of industries, we saw that wages have grown fastest in “Information,” “Administrative Support,” and “Finance and Insurance.”

In addition to the solid economic base that growth provides the region, it is important for fostering an entrepreneurial ecosystem because

growth begets growth. With its additional resources, diversity, and wealth, growth brings healthy competition that pushes people to innovate. Rapid growth brings national notoriety, which can continue the virtuous growth cycle. Furthermore, growth also has positive ramifications for the engines of future economic growth, such as the region’s local universities and technical schools, whose enrollments are currently at record highs. If managed correctly, this positive momentum can set up a region for many future waves of positive growth.

Note for charts on next page: when looking at percentage change on the charts on the next two pages, keep in mind what the ‘base’ is. Some areas that appear to have grown the fastest actually were just small to begin with and therefore are not significant parts of the economy of Southwestern Utah.

Total Employment in Southwestern Utah

in 2016, by 2-digit NAICs



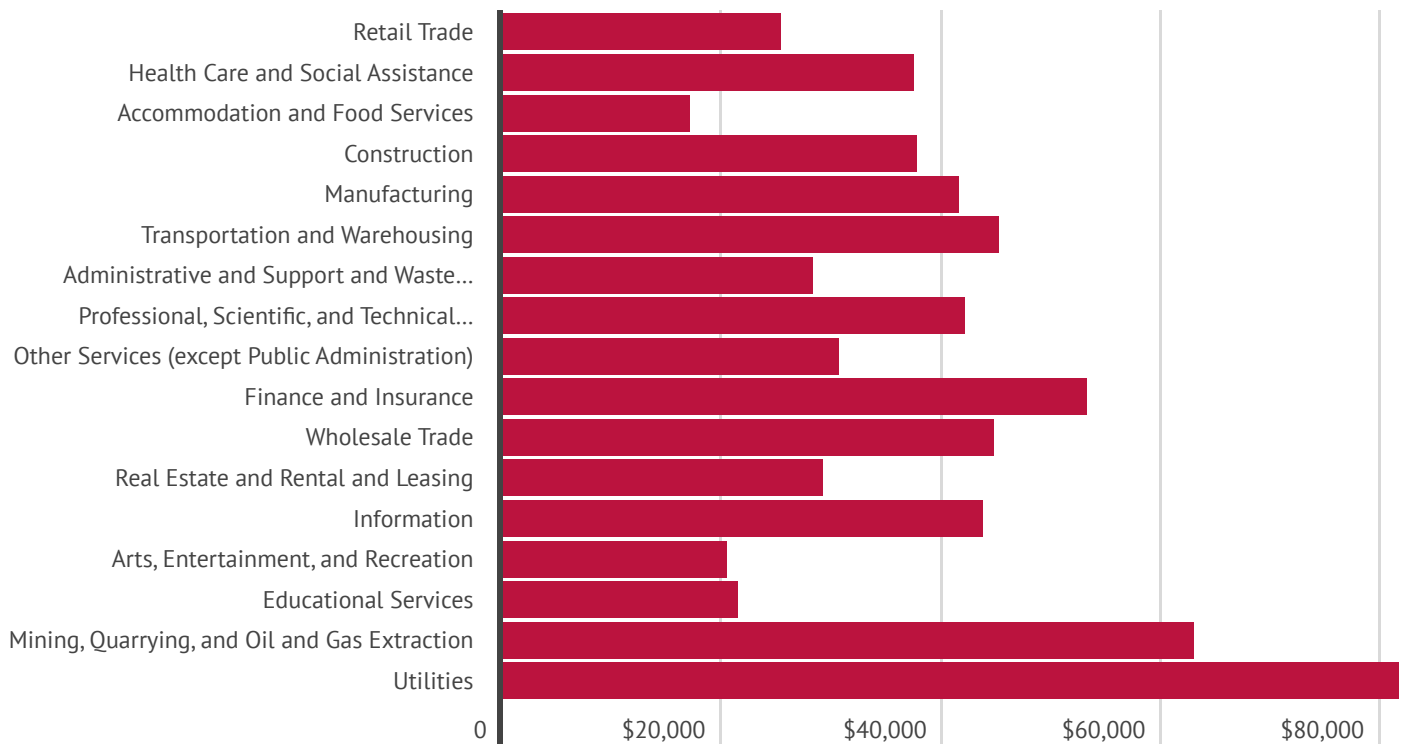
Growth in Total Employment in Southwestern Utah

from 2011 to 2016, by 2-digit NAICs



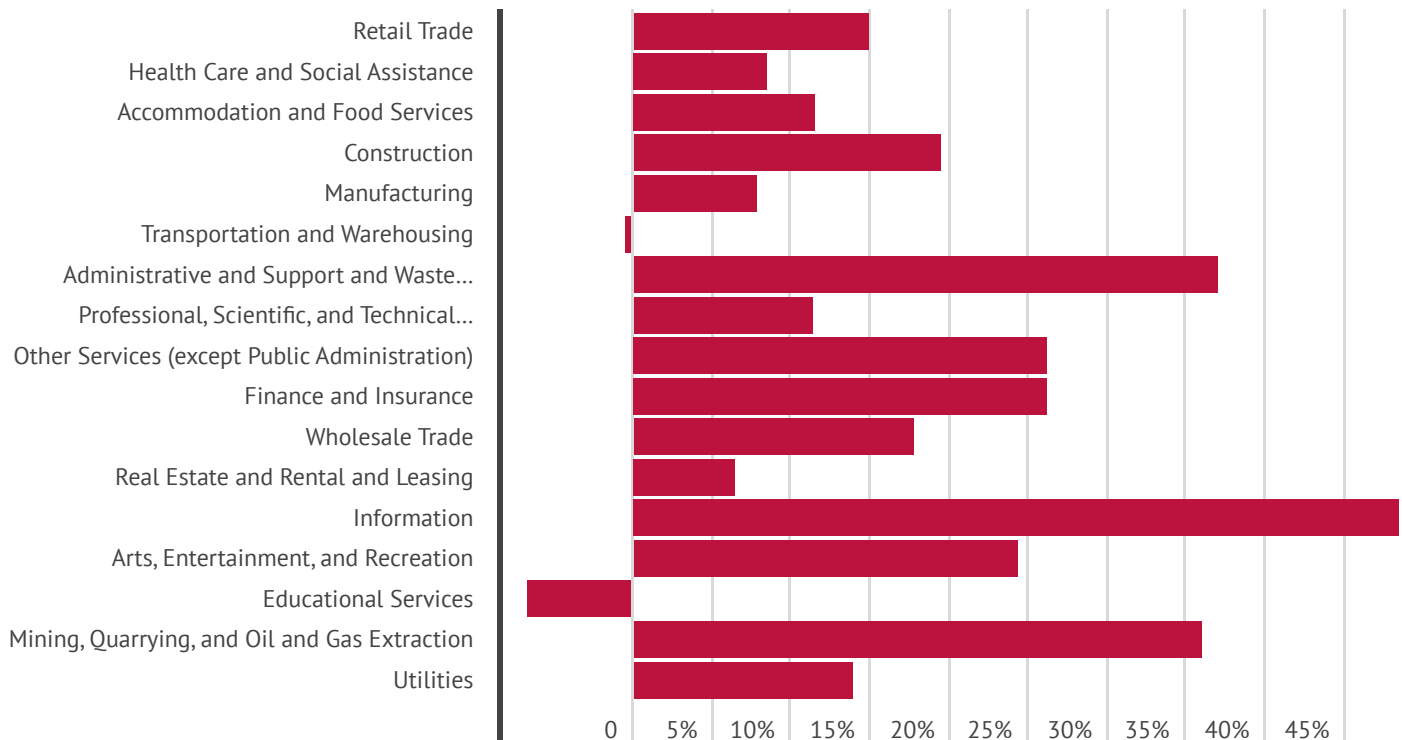
Average Wage in Southwestern Utah

in 2016, by 2-digit NAICs



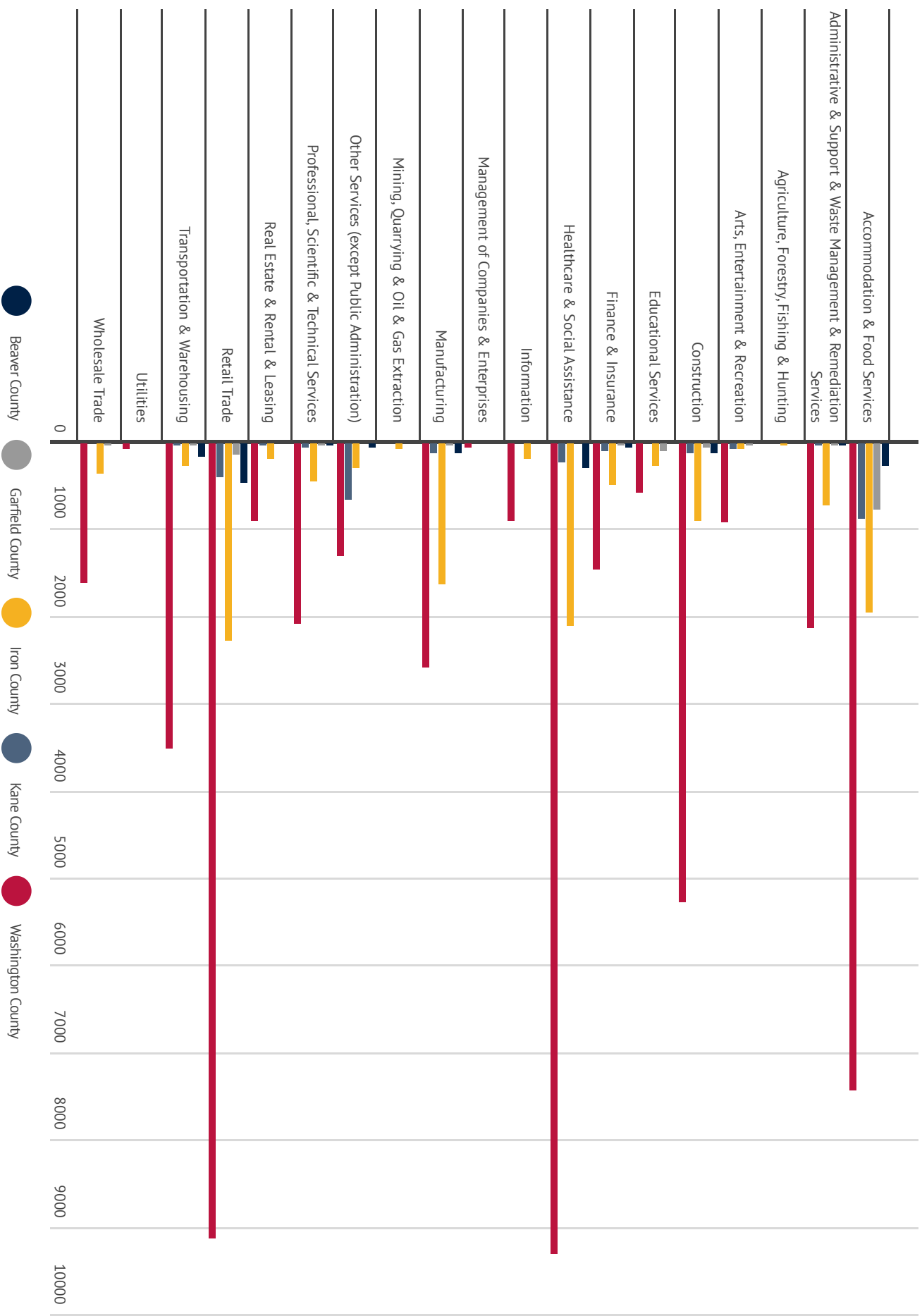
Growth in Average Wage in Southwestern Utah

from 2011 to 2016, by 2-digit NAICs



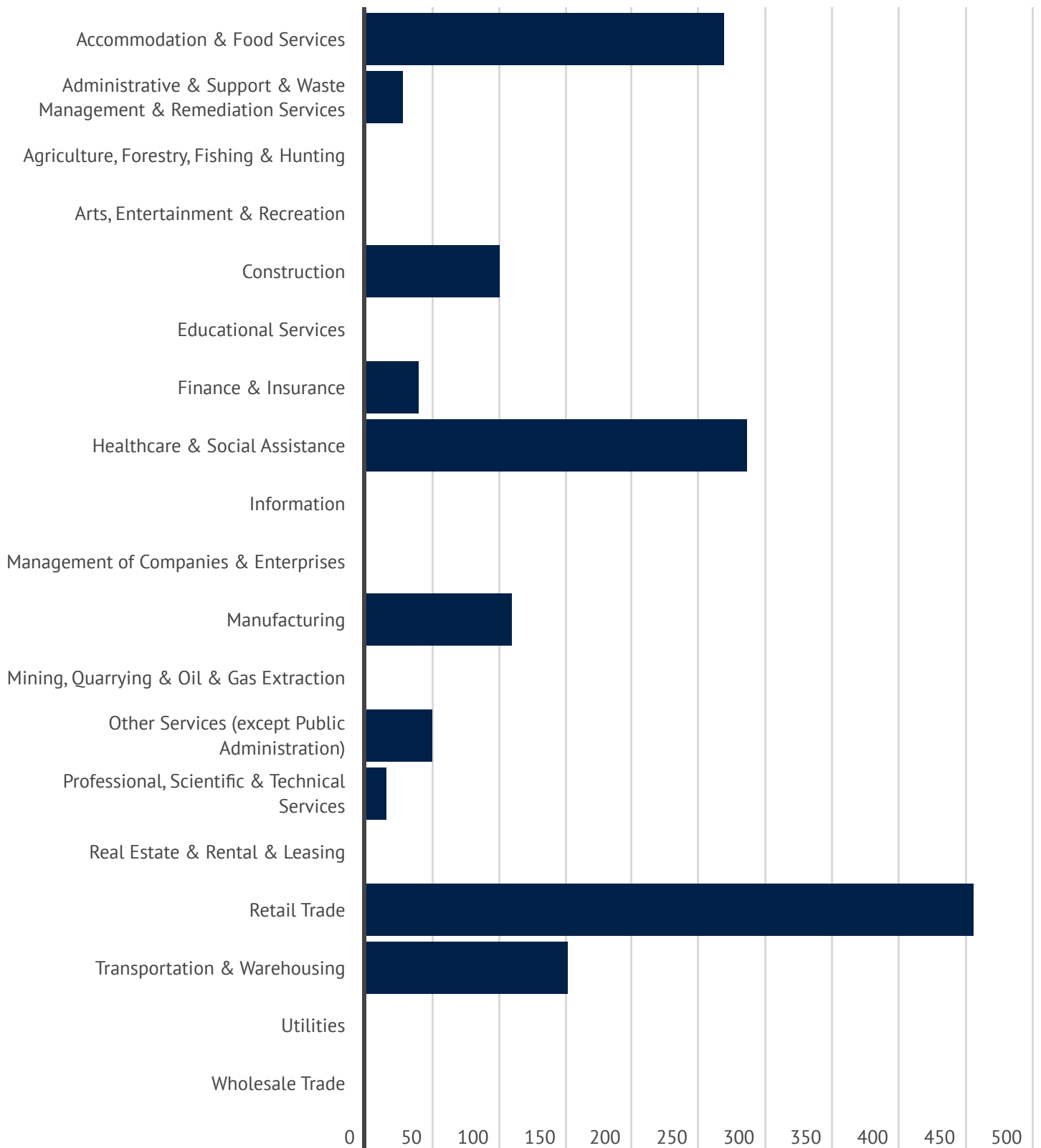
Employment in Southwestern Utah - by County

in 2016, by 2-digit NAICS



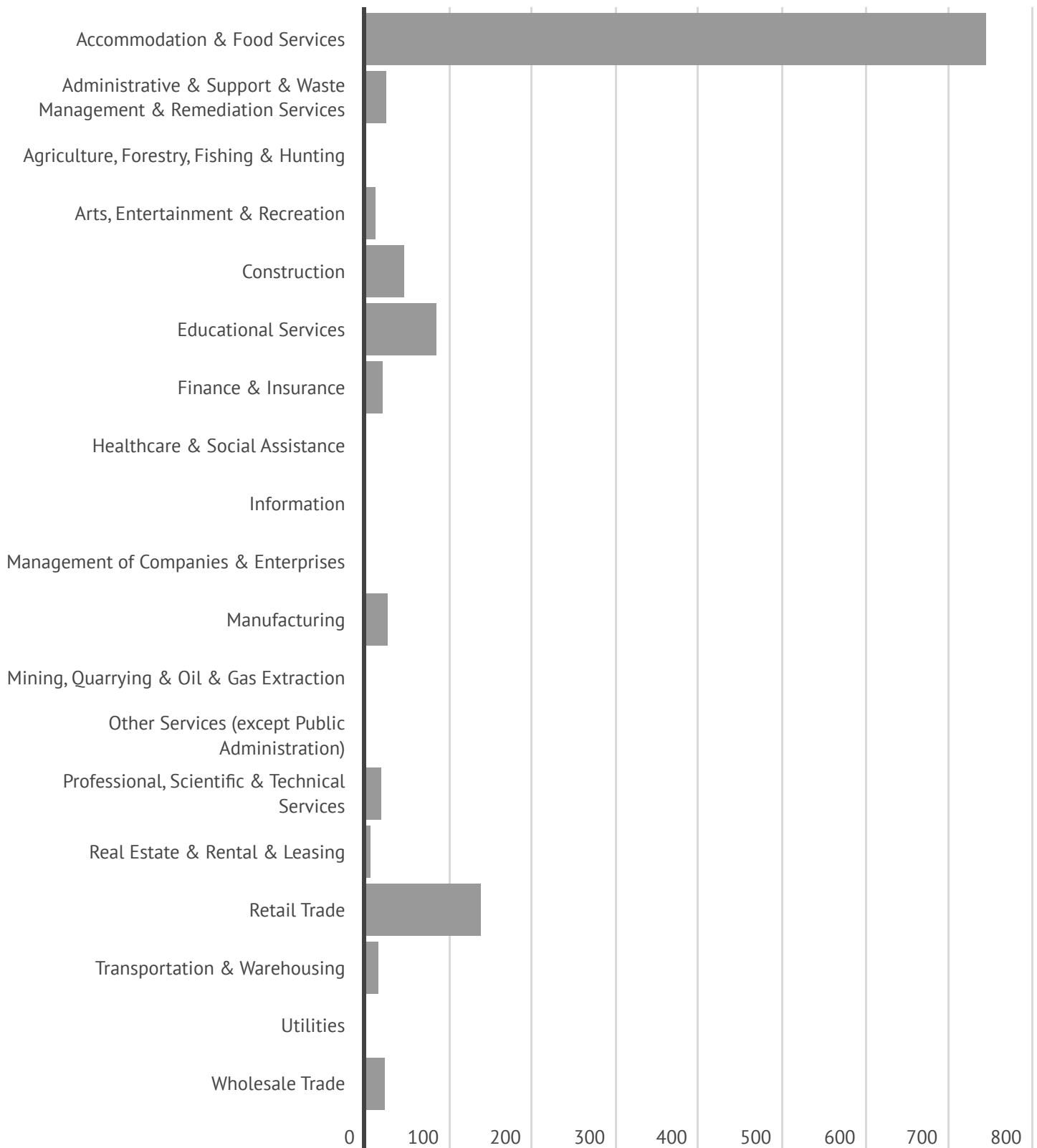
Employment Composition - Beaver County

in 2016, by 2-digit NAICs



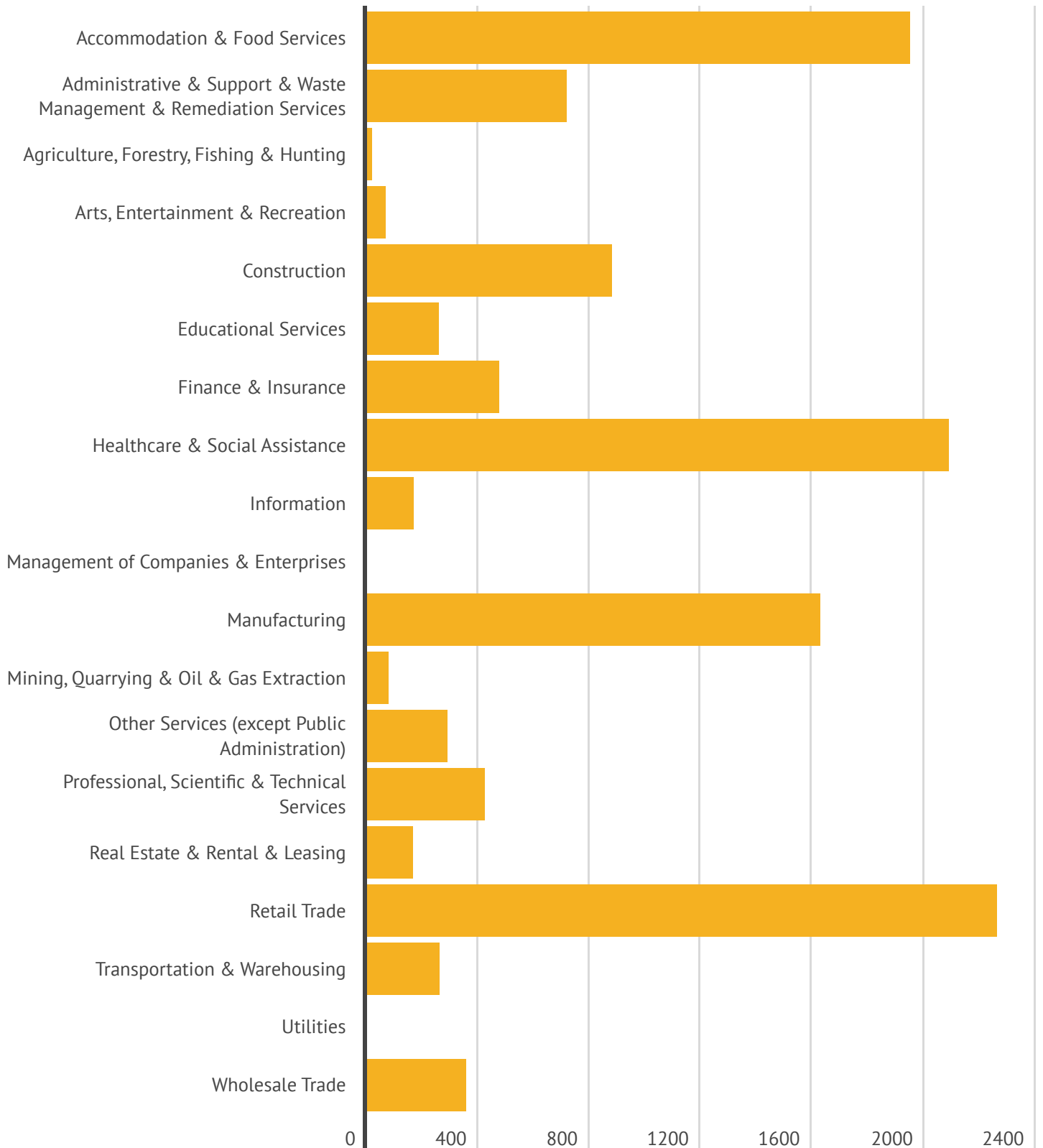
Employment Composition - Garfield County

in 2016, by 2-digit NAICs



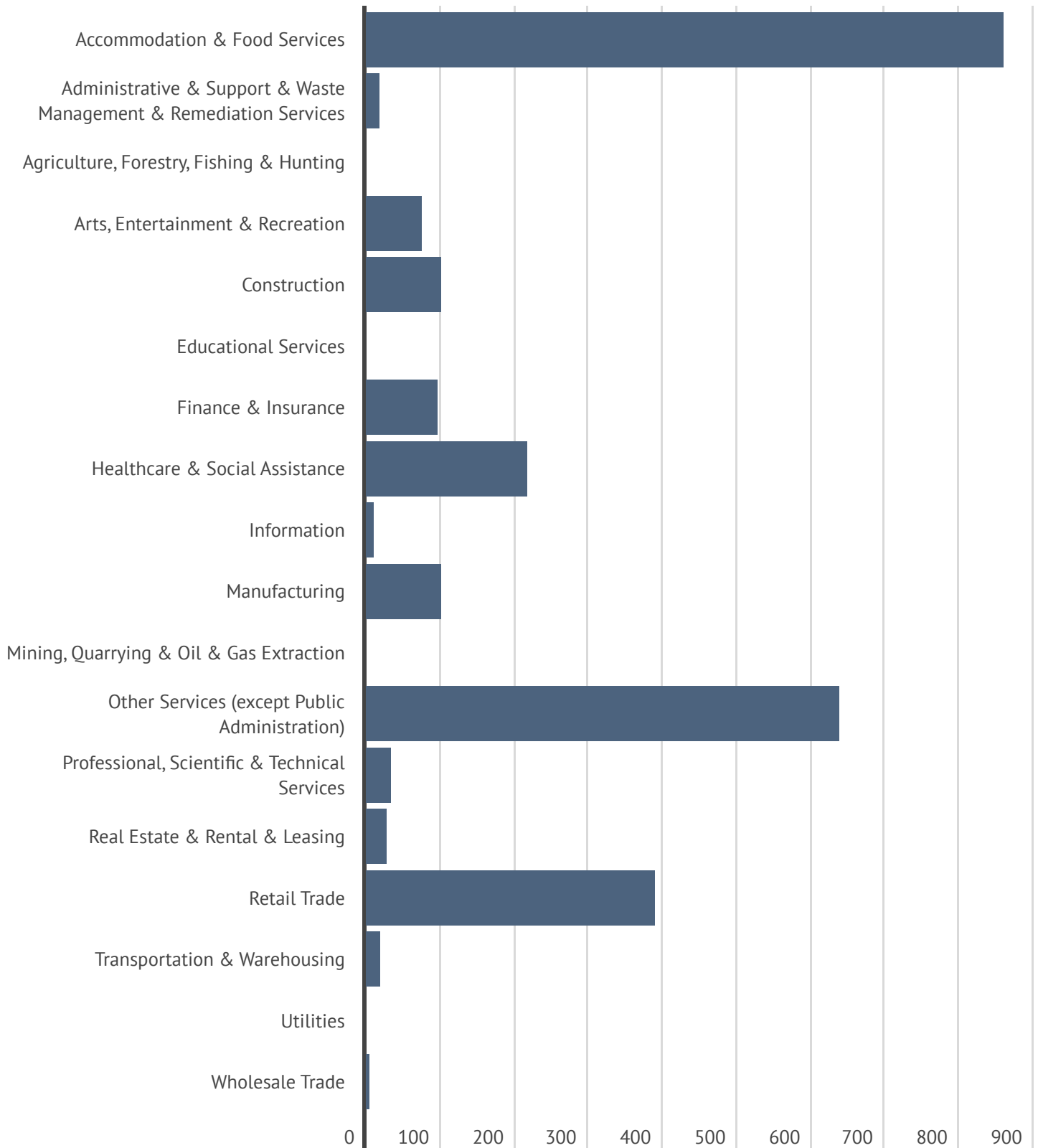
Employment Composition - Iron County

in 2016, by 2-digit NAICs



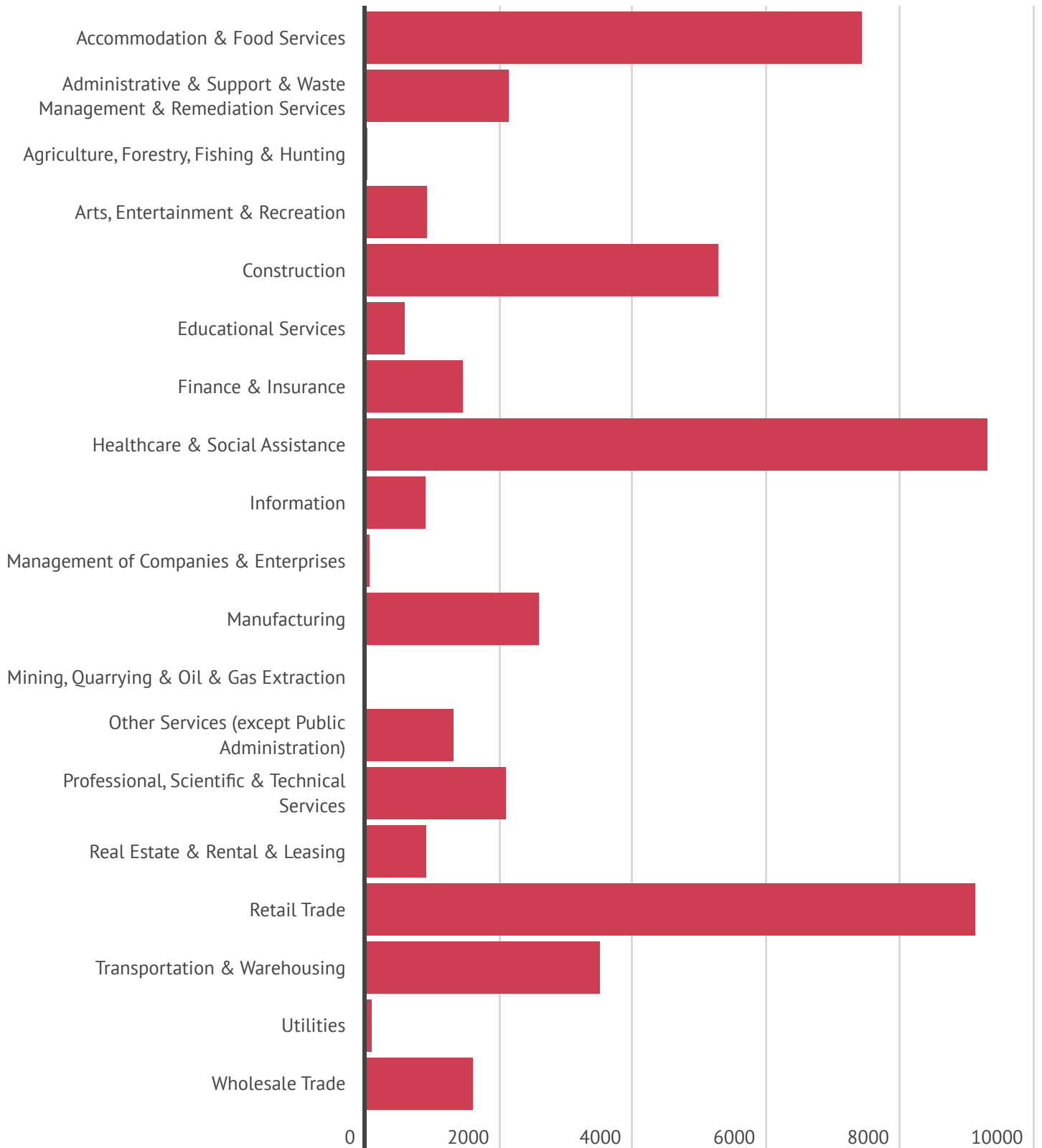
Employment Composition - Kane County

in 2016, by 2-digit NAICs



Employment Composition - Washington County

in 2016, by 2-digit NAICs



2. Unique Location

Another one of Southwestern Utah's great strengths is its location. Its proximity to national parks, its temperate climate, and location as a midway point between Las Vegas and Salt Lake City provides it with numerous advantages.

What is more, local entrepreneurs have already begun leveraging the distinctive elements of this region to create successful businesses. For example, several companies have developed innovative products for the outdoor and hospitality industries. A rescue & life support program is developing between Intermountain Healthcare, SUU, and the forestry service. Expertise in geology has led to many successful minerals and excavating companies (including a tech company, BusyBusy, which likely wouldn't have started if it weren't for founder Isaac Barlow's experience in the excavation industry). These and similar efforts to leverage the distinctive characteristics of this area have become important sources of competitive advantage.

3. Knowledge Factories

Though Southwestern Utah has fewer industrial factories than other parts of the country or world, it does have several 'knowledge factories.' This is a favorable strength because it is in these areas that wages have grown the fastest in recent years. Knowledge production is of course happening at the region's universities. However, other forms of knowledge beyond academic knowledge are just as necessary for economic

growth. Technical knowledge, which is being produced very efficiently at Dixie Tech and Southwest Tech, is another key strength of this region and should be considered alongside the academic and scientific knowledge taught at the universities.

4. Unified Front

Though it is not as concrete, the strong sense of unity that permeates the region is a major strength. Simply put, it is unlike any other region we have studied. Even unprompted, interviewees who have lived and worked outside of Southwestern Utah made the same observation. One manifestation of this unity is the growing emphasis on entrepreneurship and innovation across the region:

WASHINGTON COUNTY: In the St. George area, this unified front can be seen in the Tech Ridge development; the Atwood Innovation Plaza; the K12 Coding Camp; the work of Eric Pedersen at DSU's College of Science, Engineering, and Technology; the integration of DSU and Precision Genomics; Kelle Stephen's leadership of Dixie Tech into emerging technical areas; the Cairn Symposium; and Joshua Aiken's leadership in hosting monthly meetups of the Silicon Slopes – St George Chapter; among many others.

IRON COUNTY: In Cedar City, this unified front can be seen in the Cedar City Area Vision 2050 project currently underway, which involves numerous stakeholders. It can also be seen in SUU's Entrepreneur Leadership Council, courses, and entrepreneurs in residence.

BEAVER COUNTY: In Beaver, this can be seen with their goals to have monthly entrepreneur meetings, to partner with Quatere and the Next Generation Early Stage Umbrella Fund to encourage entrepreneurship, and to put a spotlight on people in the community making positive efforts in this direction.

KANE COUNTY: In Kane County, this is manifest in their goals to develop and attract small technology businesses and to identify distance work opportunities.

GARFIELD COUNTY: And in Garfield County, this is manifest in their goals to “attract computer technical services” and “other opportunistic ventures.”

5. Pioneering Spirit

A strong part of this region’s heritage is the ability to ‘make do with what you have’ – captured in the phrase ‘Pioneer Spirit.’ A fancy French word for this is a sister concept to entrepreneur: *bricoleur*. A bricoleur is someone who can create something with whatever is available to them. Bricolage also often means creating something new by combining diverse, previously unconnected things. This bricoleur and pioneer spirit is a distinctive part of the entrepreneurial culture of this area, and should be leveraged. ■

Entrepreneurs Rising

For about a decade, a group of entrepreneurially-minded people from across Southwestern Utah have met in St. George each month to share ideas and learn from one another. Previously called the “Dixie Technical Association” and now “Silicon Slopes St. George Chapter,” this group boasts a membership list of over 1,000 people on MeetUp.com and is a manifestation of the rising interest in entrepreneurship in Southwestern Utah. This word cloud shows where in Southwestern Utah these members come from.



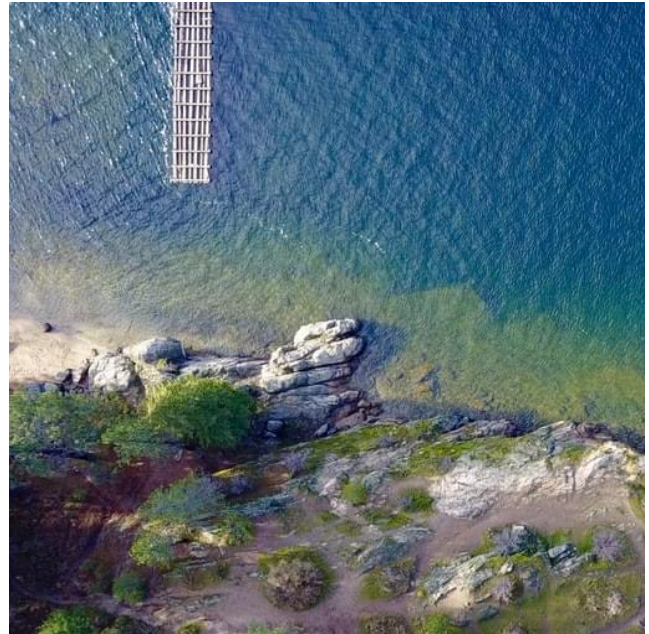
Comparable Regions

Part of this study's mandate was to identify regions that are comparable to Southwestern Utah, both as points of comparison and as opportunities for learning. Using U.S. Census demographic and industry data, we identified the following areas:

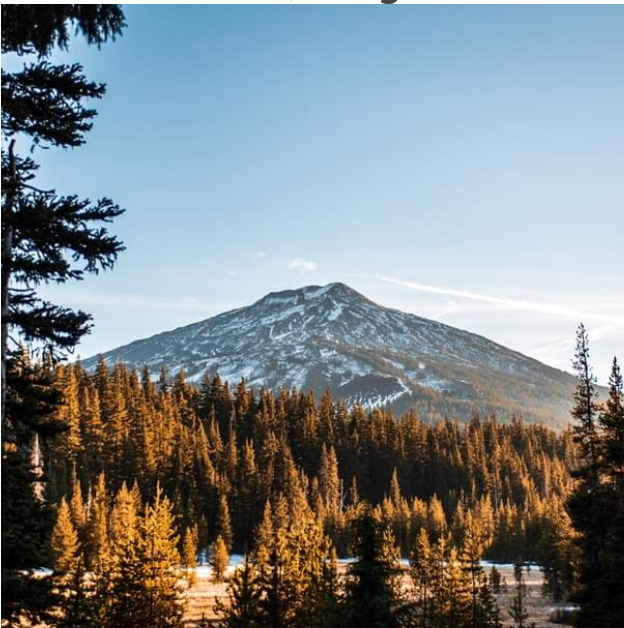
Southwestern Utah



Coeur d'Alene, Idaho



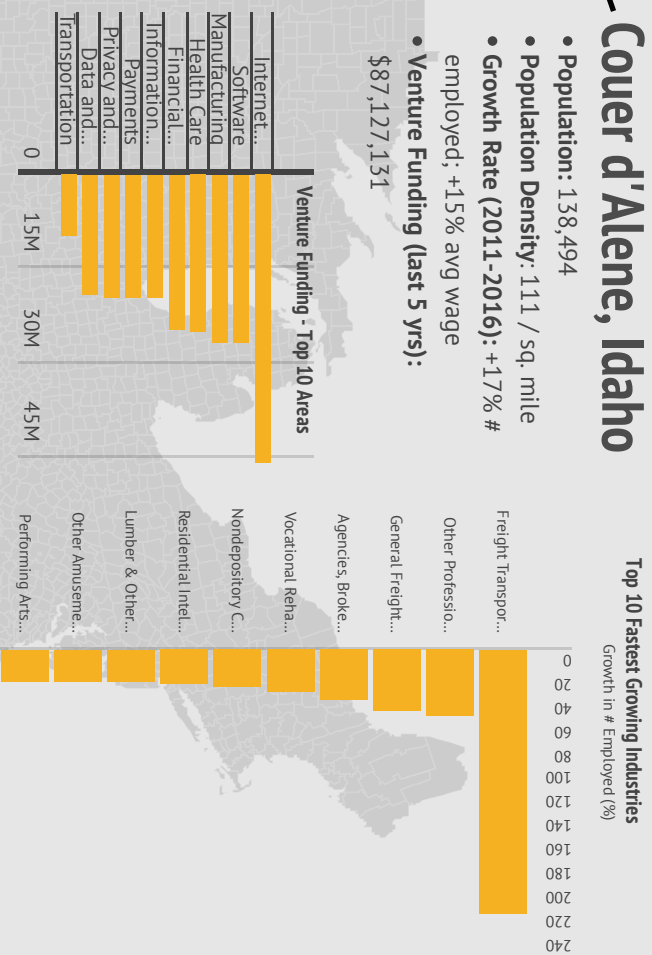
Bend, Oregon



Bozeman, Montana



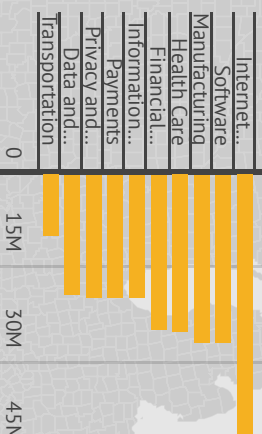
Top 10 Fastest Growing Industries
Growth in # Employed (%)



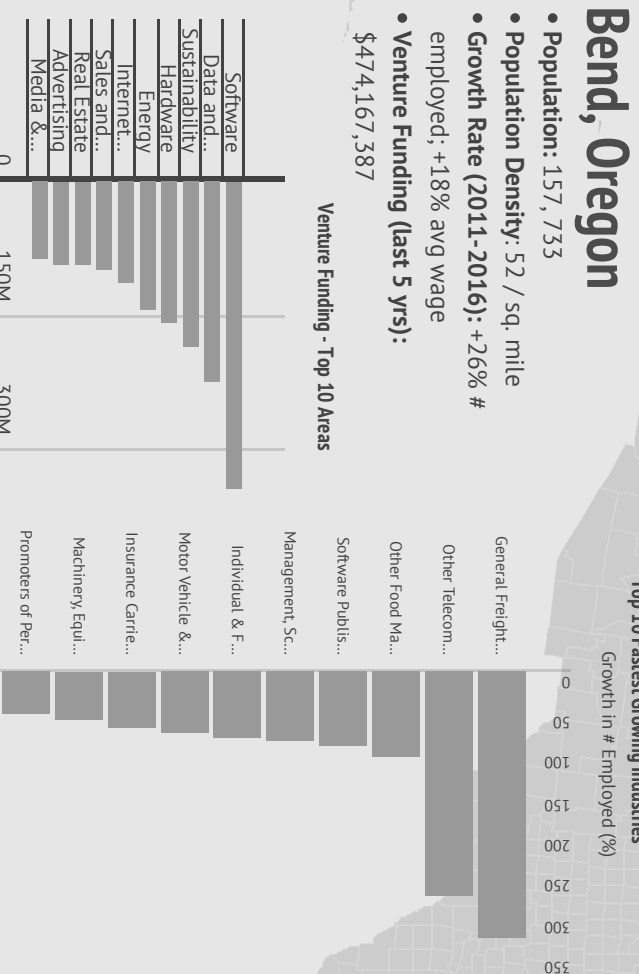
Couer d'Alene, Idaho

- **Population:** 138,494
- **Population Density:** 111 / sq. mile
- **Growth Rate (2011-2016):** +17% # employed; +15% avg wage
- **Venture Funding (last 5 yrs):** \$87,127,131

Venture Funding - Top 10 Areas



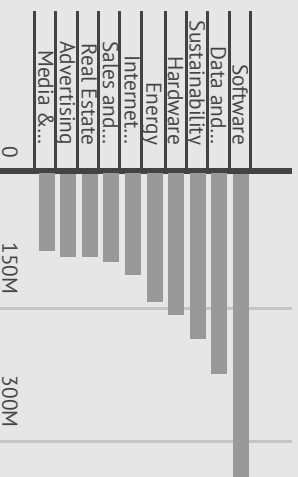
Top 10 Fastest Growing Industries
Growth in # Employed (%)



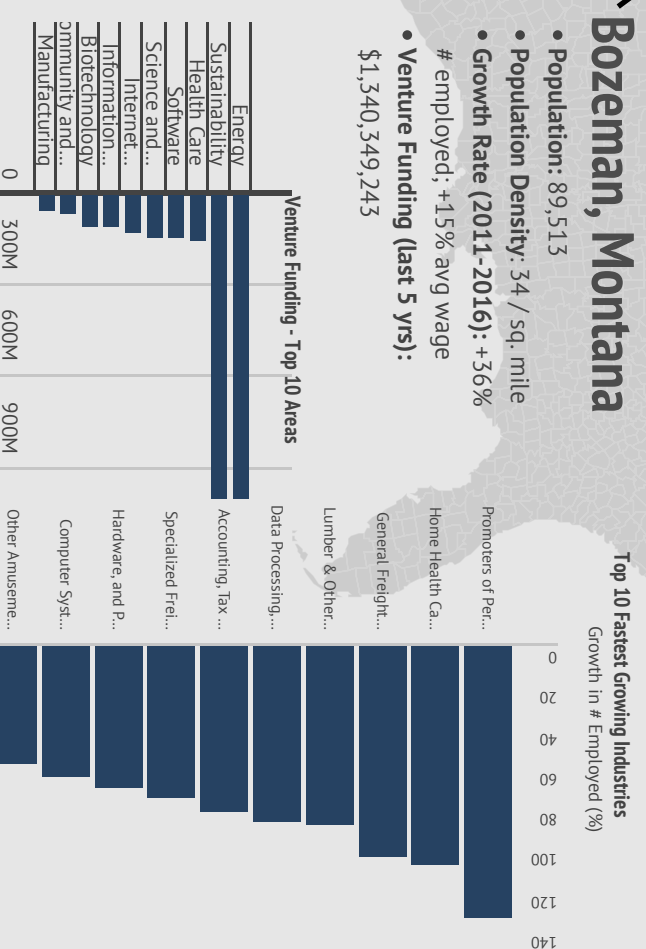
Bend, Oregon

- **Population:** 157,733
- **Population Density:** 52 / sq. mile
- **Growth Rate (2011-2016):** +26% # employed; +18% avg wage
- **Venture Funding (last 5 yrs):** \$474,167,387

Venture Funding - Top 10 Areas



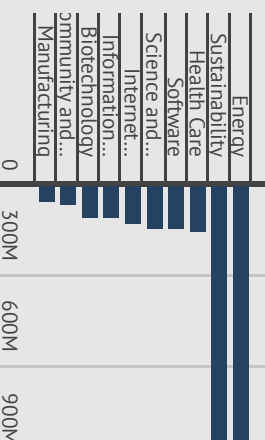
Top 10 Fastest Growing Industries
Growth in # Employed (%)



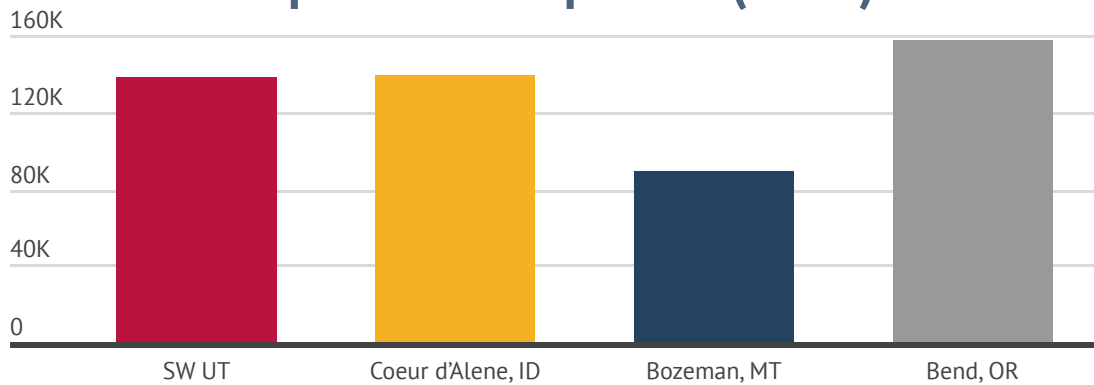
Bozeman, Montana

- **Population:** 89,513
- **Population Density:** 34 / sq. mile
- **Growth Rate (2011-2016):** +36% # employed; +15% avg wage
- **Venture Funding (last 5 yrs):** \$1,340,349,243

Venture Funding - Top 10 Areas



Population Comparison (2016)

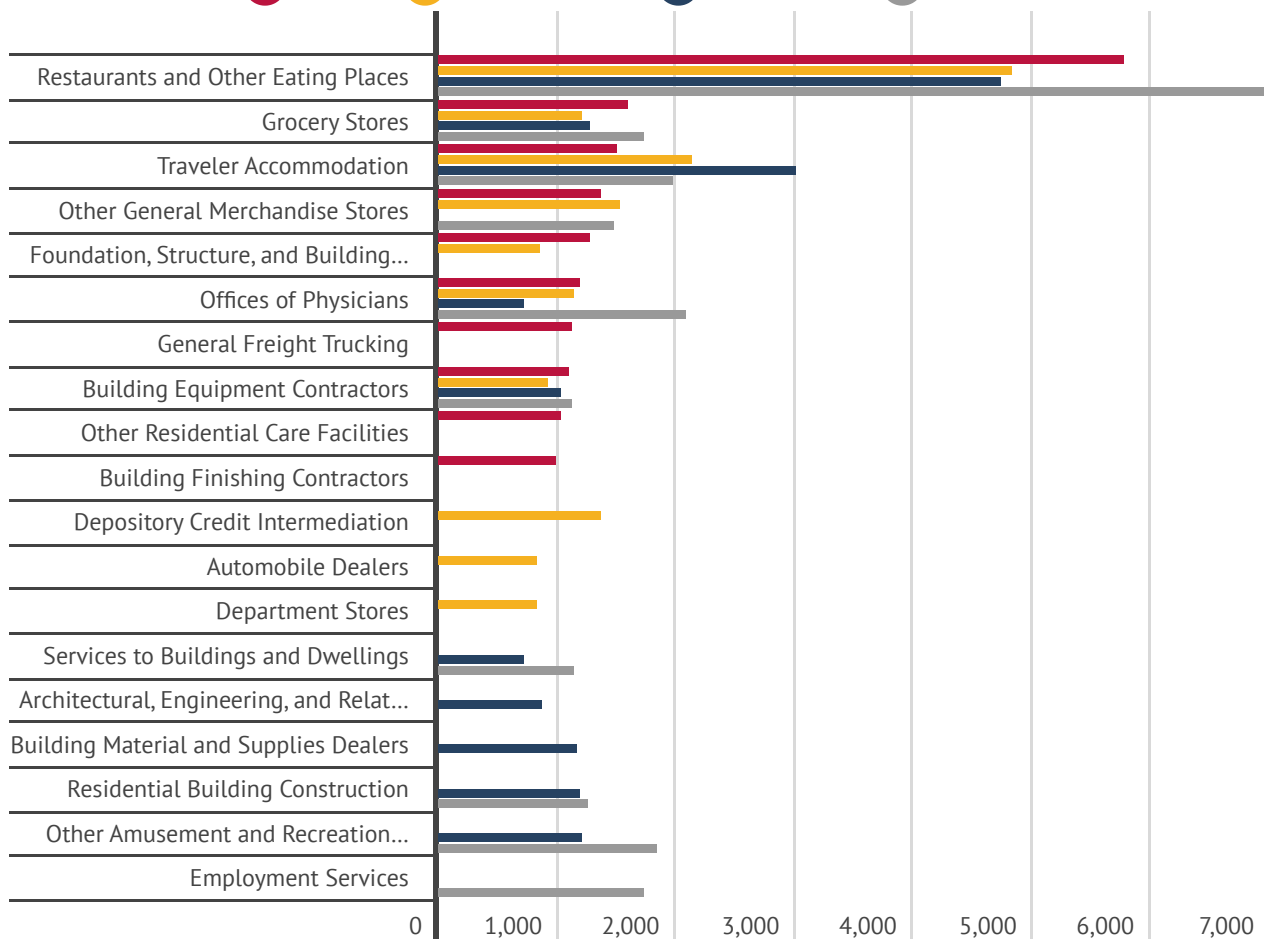


Note: in December 2019, the Kem C. Gardner Institute estimated that the population of Southwestern Utah was roughly 250,000 people. This graph uses 2016 Census data since it is available across all four regions.

Industry Composition Comparison (2016)

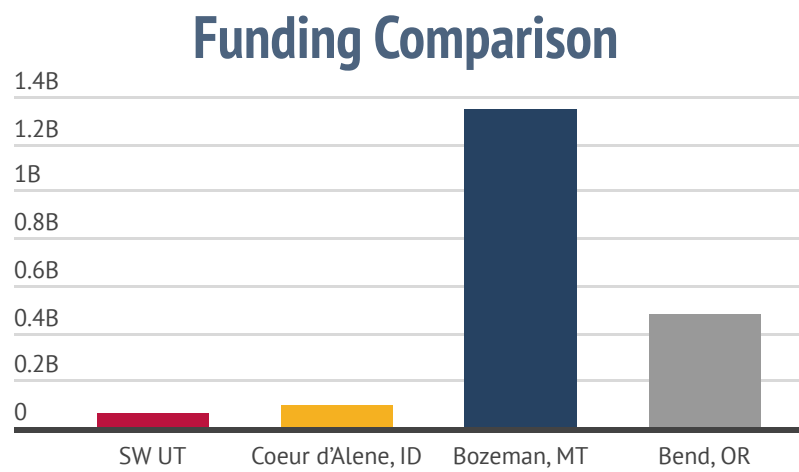
These industries made it into the 'top 10' of at least one of these regions

● SW UT ● Coeur d'Alene, ID ● Bozeman, MT ● Bend, OR



As the map and the charts on the preceding pages show, these regions are surprisingly similar across multiple dimensions: population, industry composition, recent growth rates, proximity to a larger city, presence of universities and technical schools, and access to beautiful natural environments.

While very similar (and therefore good comparisons), these regions are also different on a few important dimensions. Perhaps the most notable difference is how much more robust the funding environments are in Bozeman, Montana and Bend, Oregon, for new ventures (see graph and table below).



Risk Capital Funding Sources - by Region

REGION	FUNDER NAME	FUNDER LOCATION
Bend	Acequia Capital (Acecap)	Seattle, WA
Bend	Alliance of Angels	Seattle, WA
Bend	AltaiR Capital	Tel Aviv, Israel
Bend	Aphelion Capital	Mill Valley, CA
Bend	Benchmark	San Francisco, CA
Bend	Brian Spaly	Chicago, IL
Bend	Business Oregon	Salem, OR
Bend	California Technology Ventures	Pasadena, CA
Bend	Casa Verde Capital	West Hollywood, CA
Bend	Cascade Seed Fund	Bend, OR

Risk Capital Funding Sources - by Region

REGION	FUNDER NAME	FUNDER LOCATION
Bend	Cross Creek	Salt Lake City, UT
Bend	Daher Capital	Beirut, Lebanon
Bend	DARPA	Washington, D.C.
Bend	Denham Capital	Boston, MA
Bend	Double M Partners	Los Angeles, CA
Bend	FleetBoston Financial Group	Boston, MA
Bend	FoundersPad	Bend, OR
Bend	Geekdom Fund	San Antonio, TX
Bend	Greenspring Associates	Owings Mills, MD
Bend	Greycroft	New York, NY
Bend	Gron Ventures	Newport Beach, CA
Bend	Inspiration Ventures	Burlingame, CA
Bend	Jim Collis	New York, NY
Bend	Main Street Capital	Houston, TX
Bend	MK Capital	Northbrook, IL
Bend	NW Natural	Portland, OR
Bend	Oregon Opportunity Zone Limited Partnership ("OOZLP")	Bend, OR
Bend	Oregon Venture Fund	Portland, OR
Bend	Peakequity	Randor, PA
Bend	Acequia Capital (Acecap)	Seattle, WA
Bend	Alliance of Angels	Seattle, WA
Bend	AltaIR Capital	Tel Aviv, Israel
Bend	Aphelion Capital	Mill Valley, CA
Bend	Benchmark	San Francisco, CA
Bend	Brian Spaly	Chicago, IL
Bend	Business Oregon	Salem, OR
Bend	California Technology Ventures	Pasadena, CA
Bend	Casa Verde Capital	West Hollywood, CA
Bend	Cascade Seed Fund	Bend, OR

Risk Capital Funding Sources - by Region

REGION	FUNDER NAME	FUNDER LOCATION
Bend	Plug and Play	Sunnyvale, CA
Bend	Portland Seed Fund	Portland, OR
Bend	Pritzker Group Venture Capital	Chicago, IL
Bend	Research Corporation Technologies	Tucson, AZ
Bend	Richard Dalzell	San Francisco, CA
Bend	Rise of the Rest	Washington, D.C.
Bend	Seven Peaks Ventures	Bend, OR
Bend	Sinai Ventures	Palo Alto, CA
Bend	StartEngine	West Hollywood, CA
Bend	Starve Ups	Portland, OR
Bend	Stephen Marsh	Portland, OR
Bend	Steve Barham	Bend, OR
Bend	Summit Partners	Boston, MA
Bend	Tech Coast Angels	Los Angeles, CA
Bend	Thirty Five Ventures	New York, NY
Bend	Tom Sperry	Portland, OR
Bend	Travis Rush	Portland, OR
Bend	True Ventures	Palo Alto, CA
Bend	VeriSign	Reston, VA
Bend	VMG Partners	San Francisco, CA
Bend	Volition Capital	Boston, MA
Bend	WeWork Labs	New York, NY
Bend	Will Young	San Francisco, CA
Bend	Winfield Capital Corp	New York, NY
Bozeman	2M Companies	Dallas, TX
Bozeman	Acumen	New York, NY
Bozeman	Amgen	Thousand Oaks, CA
Bozeman	Athenian Venture Partners	Athens, OH
Bozeman	Atlassian	Sydney, Australia

Risk Capital Funding Sources - by Region

REGION	FUNDER NAME	FUNDER LOCATION
Bozeman	Bay Capital	Providence, RI
Bozeman	Better Ventures	Oakland, CA
Bozeman	Boomtown Accelerators	Boulder, CO
Bozeman	Carl Zeiss	Oberkochen, Germany
Bozeman	Castanea	Newton, MA
Bozeman	Copenhagen Infrastructure Partners	Copenhagen, Denmark
Bozeman	Credit Suisse First Boston	London, England
Bozeman	Eight Roads Ventures	London, England
Bozeman	Forward Ventures	San Diego, CA
Bozeman	Foundry Group	Boulder, CO
Bozeman	Front Street Capital	Toronto, Canada
Bozeman	Frontier Angel Fund	Bozeman, MT
Bozeman	Global health sciences venture fund	Vancouver, British Columbia, Canada
Bozeman	Goodworks Ventures	Missoula, MT
Bozeman	Greylock Partners	Menlo Park, CA
Bozeman	Impact Engine	Chicago, IL
Bozeman	J.H. Whitney & Co	New Canaan, CT
Bozeman	Kairos	Beverly Hills, CA
Bozeman	Mach37	Herndon, VA
Bozeman	MassChallenge	Boston, MA
Bozeman	MedImmune Ventures	Gaithersburg, MD
Bozeman	Millennium Technology Value Partners	New York, NY
Bozeman	Mission Bay Capital	San Francisco, CA
Bozeman	MIT Media Lab	Cambridge, MA
Bozeman	Naren Gupta	Raleigh, NC
Bozeman	NEXT Frontier Capital	Bozeman, MT
Bozeman	Novartis Venture Fund	Basel, Switzerland
Bozeman	Right Side Capital Management	San Francisco, CA
Bozeman	Summer@Highland	Boston, MA

Risk Capital Funding Sources - by Region

REGION	FUNDER NAME	FUNDER LOCATION
Bozeman	Summer@Highland	Boston, MA
Bozeman	Summit Partners	Boston, MA
Bozeman	Teamworthy Ventures	New York, NY
Bozeman	The Chernin Group	Los Angeles, CA
Bozeman	Toyota AI Ventures	Los Altos, CA
Bozeman	Venrock	Palo Alto, CA
Coeur D'Alene	AccelFoods	New York, NY
Coeur D'Alene	Council Capital	Nashville, TN
Coeur D'Alene	Gula Tech Adventures	Washington, D.C.
Coeur D'Alene	Israel Growth Partners	Herzliya, Israel
Coeur D'Alene	Mountain Man Ventures	Coeur D'Alene, ID
Coeur D'Alene	Safeguard Scientifics	Randor, PA
Coeur D'Alene	SCP Partners	Malvern, PA
Coeur D'Alene	SOSV	Princeton, NJ
Coeur D'Alene	Summit Partners	Boston, MA
SW UT	Alpharma	
SW UT	Bigfoot Capital	Denver, CO
SW UT	BoomStartup	Salt Lake City, UT
SW UT	Caterpillar Ventures	San Francisco, CA
SW UT	Matthew Yack	St. George, UT
SW UT	Mercato Partners	Cottonwood Heights, UT
SW UT	Sorenson Capital	Lehi, UT
SW UT	TMT Investments	Saint Helier, UK
SW UT	Wayra	Munich, Germany

WEAKNESSES

Alongside the many strengths that Southwestern Utah has as an entrepreneurial ecosystem, there are also several weaknesses. Once again, given the mandate of this study, we focus here exclusively on weaknesses we see in Southwestern Utah *as an entrepreneurial ecosystem*.

1. Lack of Risk Capital

There is an enormous gap between the entrepreneurial aspirations of Southwestern Utahns and the risk capital available to them. Entrepreneurs consistently brought this up in our interviews with them. Our quantitative analysis supported their assertions, demonstrating that funding in Southwestern Utah has been inconsistent in terms of quantity, frequency, and participating capital providers (see table for venture funding in the region).

Some may look at this list and argue that it does not reflect the many informal or private business deals that occur in Southwestern Utah. This is true. However, the fact is that all major players in the venture capital industry use these databases to identify deals and to assess the risk of investing in a particular region based on who else has invested there in the past. So, if a startup isn't listed in these databases, then it effectively does not exist to the outside world! Furthermore, informal and/or private deals happen in other regions as well and are not reflected in the comparative data we presented previously. Therefore, it is safe to say that the amount of entrepreneurial funding in Southwestern Utah is very low by almost any standard.

The funding problem appears to be especially acute among would-be entrepreneurs in the 18- to 25-year-old range. When asked where they would seek funds to develop an innovative idea they shared with us in the interview, several of these young people admitted they did not know where to start. For some of these individuals, the lack of capital contributed to their desire to move away from Southwestern Utah after graduation.

Through interviews with local investors, we were able to learn more about the other side of the equation. One investor said that capital is available, but that you have to know where to find it. He noted that part of the problem is a mismatch between the diverse array of entrepreneurial ideas and the specialty areas of local investors, who often specialize in a particular industry area or kind of venture. For example, an entrepreneur approached him with a software idea, but he had to pass on it because it was outside his area of focus.

Finally, when we asked investors based outside of Southwestern Utah but still in the Intermountain West what kept them from investing in entrepreneurs in Southwestern Utah, they noted that the “lack of deal flow” in the area makes it inefficient for them to source deals

there. They noted several tradeoffs when choosing to devote their attention to Southwestern Utah or elsewhere, including travel time. As the table to the right shows, a little more time in the air avails them of many more investment opportunities.

Getting risk capital to flow is as critical to the growth of this region today as developing a dependable water supply was to early settlers. It deserves concerted effort by the entrepreneurial community and governmental and university leaders alike.

2. Undercompensating Human Capital

It is no secret among Southwestern Utahns that wages in the region are generally lower than they should be. This theme appeared in almost every interview. However, we propose that the conversation about low wages in Southwestern Utah be reframed. Low wages are not inherently bad; they are mostly a reflection of fundamental market forces that, if left alone, tend to lead to efficient outcomes (see next page for 'Wages in a Nutshell'). However, low wages can also be symptoms of other things that are themselves bad. Here we note just two.

The first is when a local economy bases too much of its economy on industries that by their nature pay low wages (e.g., retail, restaurants, hospitality). Our data show that this first dynamic is indeed true of Southwestern Utah: a large part of the workforce is employed in industries where wages never rise very quickly.

Time in the Air

This table compares the non-stop flight times from Salt Lake City to Saint George and various entrepreneurial hubs in the Western US:

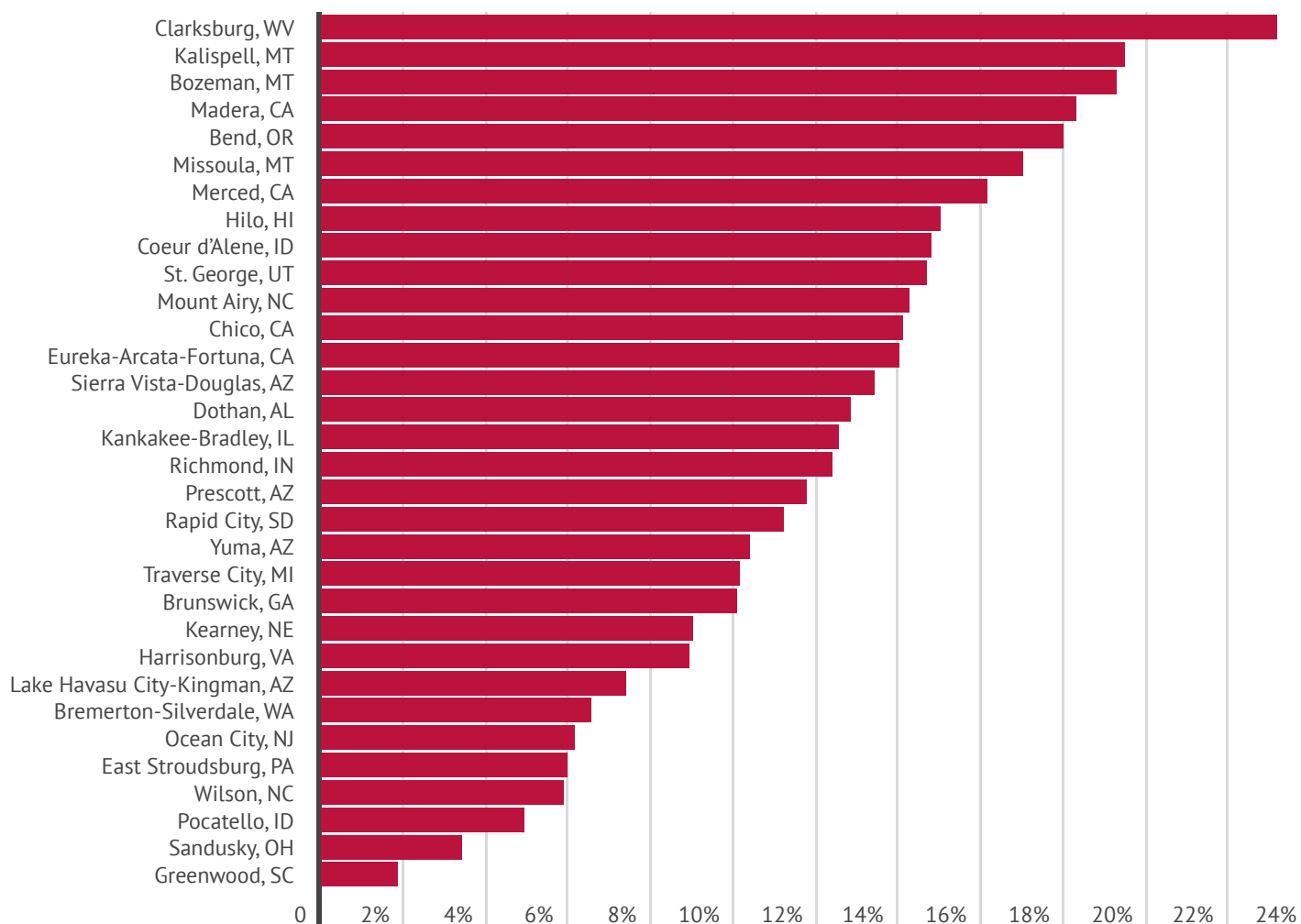
TO ST. GEORGE: 1 hr 15 min
TO DENVER, CO: 1 hr 30 min
TO BOISE, ID: 1 hr 30 min
TO LOS ANGELES, CA: 2 hrs
TO SAN FRANCISCO, CA: 2 hrs 15 min

In fact, in some of these industries, wages are likely to *decline* in the coming years due to efficiency improvements that reduce the need for skilled labor. The solution to this problem is the core message of this study: identify industries where innovation is driving wages higher and then try to devote more and more of the regional economy toward those activities. Investing in knowledge-based industries, where human beings can be much more productive than machines, are the surest bet for raising wages in a region.

The second dynamic is subtler and more pernicious: low wages may reflect a cultural tendency to undervalue human capital. While we cannot definitely say with the data available to us whether this is happening or not in Southwestern Utah, the data do suggest that it is possible. For instance, when you match Southwestern Utah to other regions with the same industry composition, the wage gap persists.

Average Wage Growth in Similar MSA's (2011-2016)

Similarity defined as 50-70th percentile for population and sharing 3 of top 10 industries

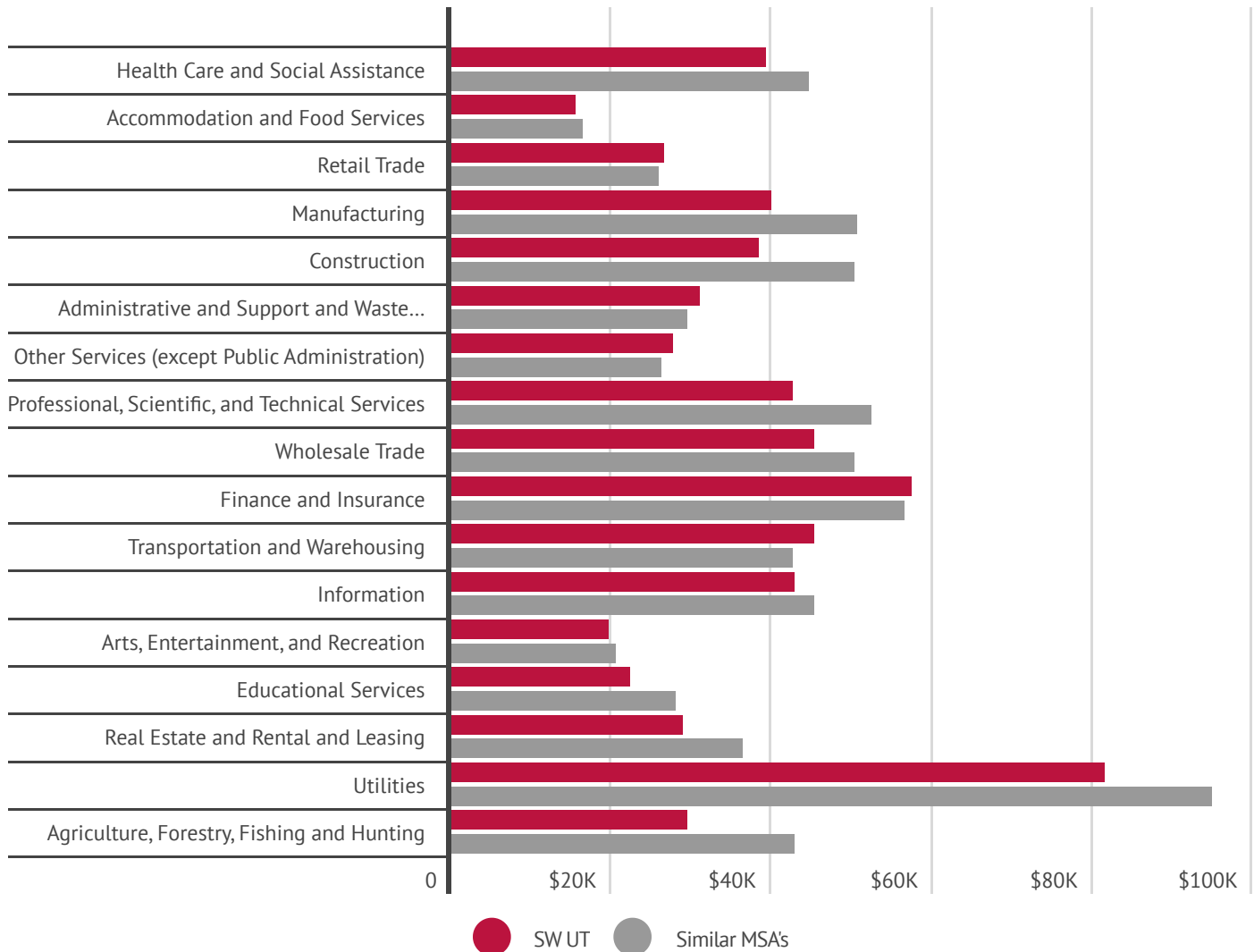


Wages in a Nutshell

Various factors can contribute to low wages. Economists typically link wage growth to productivity, which itself is driven by three main factors: the skills workers have; the quality and quantity of assets surrounding the worker (such as equipment or infrastructure); and the price of what the worker produces. Since the price of goods is often determined by forces outside a single area, it is most relevant for local stakeholders to focus on the other two factors: the skills of individual workers and the quantity and quality of the assets that surround these workers. This fundamental concept from economics about wages explains why Innovation-Driven Enterprises (IDEs) tend to produce higher-paying wages: because the innovations at the heart of IDEs take a unique set of skills to produce in the first place, and then, once developed, become a high-quality asset boosting the productivity of workers.

Average Wage in Similar MSAs

From 2011-2016 by 2-digit NAICs. Similarity defined at 50-70th percentile for population and sharing 3 of top 10 industries



Looking at the graph on the previous page, which once again lists the top-growing areas that are similar in size to Southwestern Utah, we see that, while the region was top of the charts in terms of growth in total number of people employed, the growth in the average wage per worker is 10th in this list of about 30 similar MSAs, coming in at about 14% growth over 5 years (with 6.7% of that growth due to inflation).

The graph on this page sheds additional light on

the wage gap. It shows that in the industries where Southwestern Utah employs the most people, wages are lagging those of other, comparable areas.

Whatever the cause, abnormally low wages sends a bad signal. Southwestern Utah needs to gain a reputation for rewarding people for their skills and productivity, not for squeezing them. Transitioning more and more to a knowledge-based economy is a surefire way of doing that.

The Knowledge Economy

SHIFTING FROM PHYSICAL TO HUMAN CAPITAL

Over the last 50 years, the US economy has become less dependent on physical capital and more dependent on human capital. However, this shift has not been a seamless transition – in part because it has entailed a paradigm shift with regard to human labor. For much of US economic history, human labor was seen as a cost to be driven out of the production system. But, due to changes in the global economy, human labor has increasingly become the US's source of competitive advantage.

Research has shown that almost every region in the US has gone through serious 'growing pains' associated with making this shift in thinking. There are sometimes overt sources of resistance to the shift (often an 'old guard' who want to hold onto past ways of thinking) as well as more covert forms of resistance (such as taken-for-granted assumptions or cultural norms that go unexamined). Regions that have opened dialogues within their communities about shifts in expectations for and compensation of labor appear to have had greater success.

RETHINKING INFRASTRUCTURE

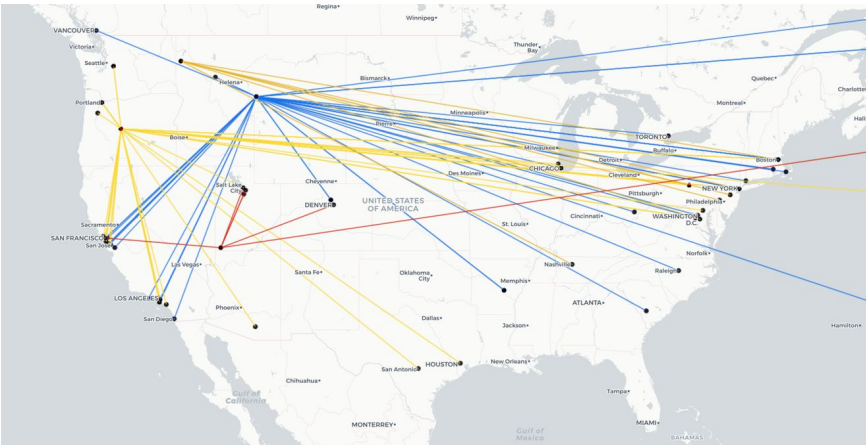
Another shift in thinking pertains to infrastructure. Infrastructure is an essential element to any economy because it is how value travels from creators to consumers. Traditionally, infrastructure has been thought of mostly as physical assets: roads, bridges, utilities, fiberoptic cables, and so on. But today's economy demands a broader definition. In the knowledge economy, less-tangible but no less significant kinds of infrastructure also require investment and maintenance.

Our research revealed that Southwestern Utah has a reasonably strong physical and business service infrastructure relative to its size and the complexity of its economy (with the exception of fiber coverage in rural portions of the Five County Region; see broadband.utah.gov/map and locate.utah.gov for detailed maps). However, several less tangible forms of infrastructure need improvement in Southwestern Utah. For example,

relationships with people outside of the region are crucial conduits whereby ideas, knowledge, and opportunities can flow into the region. Yet relatively little attention is being paid to this important form of knowledge-economy infrastructure. As noted before, Southwestern Utah is falling behind comparable regions in terms of a particular kind of this 'network' infrastructure: relationships with risk capital providers.

Broad Networks

This map shows the broad array of risk capital providers that are funding ventures in the three comparable regions featured previously: Bend, OR; Bozeman, MT; and Coeur d'Alene, ID. Click [here](#) for an interactive version of the map.



Another essential type of infrastructure in the knowledge economy is, of course, knowledge. The following table shows the percent of people aged 25 and older in each county that have a bachelor's degree in one of these selected fields. Of course, neither bachelor's degrees nor these particular fields are the only kind of knowledge that are relevant in today's economy. However, this is still an interesting indicator of the region's 'knowledge infrastructure.'

Bachelor's Degrees in Selected Fields - by County
Among people aged 25 and older

	Science & Engineering	Science & Engineering Related	Business
Beaver	8.0%	2.3%	3.1%
Garfield	6.9%	3.3%	1.9%
Iron	7.6%	3.8%	5.2%
Kane	9.2%	2.6%	4.0%
Washington	9.0%	3.2%	5.3%
State Average	11.3%	3.4%	6.2%

Source: Kem C. Gardner Policy Institute (2017) "Utah's Strategic Clusters: Performance, Benefits, Workforce Needs, and Rural Utah"

3. Siloed Social Circles

As noted in the introduction, ‘people matter’ when it comes to developing an entrepreneurial ecosystem. The face-to-face interactions people have in an ecosystem engender trust and allow for fine-grained information transfer. This can become a major source of competitive advantage –a competitive advantage that can exist not in spite of advanced communication technologies, but because of them! One way to think about this is that anything in the region that gets in the way of face-to-face interactions or relationship building is ceding some amount of the comparative advantage of the region. Taken to its logical conclusion, neglecting the face-to-face dynamic of a regional entrepreneurial ecosystem makes a region’s citizens essentially undifferentiated from anyone else in the world with similar skills and an internet connection.

We asked many of our interviewees how they meet new people and their responses formed an interesting pattern. Members of the local business community tended to meet other people through the Chamber of Commerce, the Rotary Club, and other associations. Members of the entrepreneurial community tended to meet one another through meetups like the St George Chapter of Silicon Slopes. Governmental leaders tended to meet people at civic events, committee meetings, etc. Though there was of course overlap between the groups, the pattern held.

Another interesting insight that our interviews revealed was that, because of the strong presence of the Church of Jesus Christ of Latter-

day Saints in the region, the social circles of people in the area are heavily influenced by which Stake and Ward they are assigned to. One respondent noted how this could be an advantage for entrepreneurs, since it provides them with the deep relationships of trust they need in order to gain access to opportunities or resources. However, it also limits broader mixing between different parts of the community – which is a common dynamic in the most successful ecosystems.

4. Brain Drain

A final weakness that our research uncovered is the ‘brain drain’ present throughout the region. This is, of course, a relative phenomenon: one area’s brain drain is another area’s brain gain. Brain drain is problematic for Southwestern Utah in at least two respects: one is the drain of talent from more rural areas to more metropolitan areas in the region. While in the long run, the development of the metropolitan areas is perhaps best for the surrounding rural economy, in the short run, this causes serious problems to these communities.

The second type of brain drain is when ambitious and talented graduates leave the area in search of opportunity. This is not necessarily bad; graduates may live elsewhere for a time and then return to the region with greater skills and opportunities. However, our sense is that only a limited number of these alumni of the region return. What adds to the problem is that it is very hard to keep track of who these people are, where they are going, and why they went. ■

Population Composition & Migration Patterns in Southwestern Utah

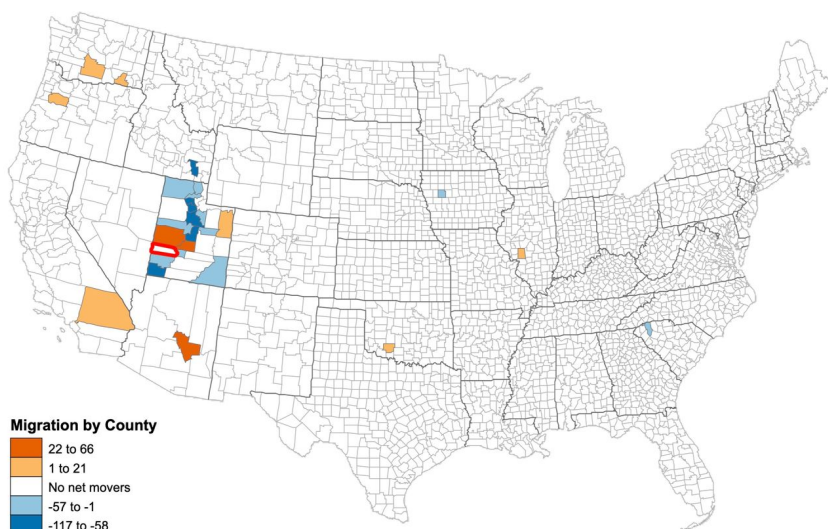
Understanding who lives in a region and where people are moving is essential for assessing the region as an entrepreneurial ecosystem. The next few pages provide basic demographic and migration data for the five counties of Southwestern Utah.

The population data comes from a November 2019 study conducted by the Kem C. Gardner Policy Institute at the University of Utah and is summarized in a brief table for each county. The migration data come from the U.S. Census Bureau's 5-Year American Community Survey for the years 2013-2017. Orange hues represent counties with a net positive inflow of citizens into the county in Southwestern Utah, while blue hues represent a net negative outflow of citizens out of the county in Southwestern Utah. Note that the scale for each map changes, and so be sure to reference the legend for each individual map.

This data reveals several interesting patterns. One is a consistent pattern of regional migration, with California, Nevada, and Arizona accounting for much of these counties' inflows and outflows. Iron and Washington Counties break with this pattern somewhat, exhibiting more ties nation-wide (likely due to the students and retirees drawn to the universities in these counties).

Beaver County

Net Migration (2013-2017)

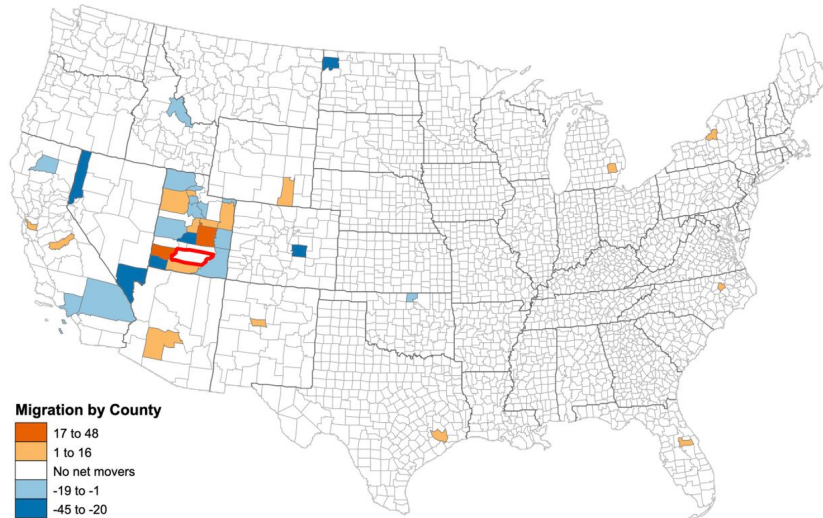


Population Composition (2018)

AGE GROUP	TOTAL	%
School Age (5-17)	1,673	24.2%
College Age (18-24)	544	7.9%
Working Age (18-64)	3,735	54%
Retirement Age (65+)	973	14.1%
85+	116	1.7%

Garfield County

Net Migration (2013-2017)

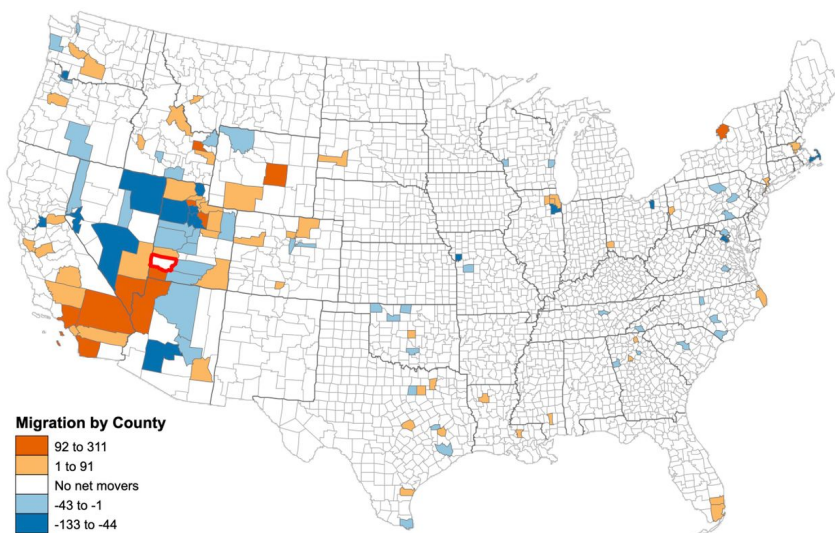


Population Composition (2018)

AGE GROUP	TOTAL	%
School Age (5-17)	1,022	19.5%
College Age (18-24)	369	7.1%
Working Age (18-64)	2,820	53.9%
Retirement Age (65+)	1,094	20.9%
85+	132	2.5%

Iron County

Net Migration (2013-2017)

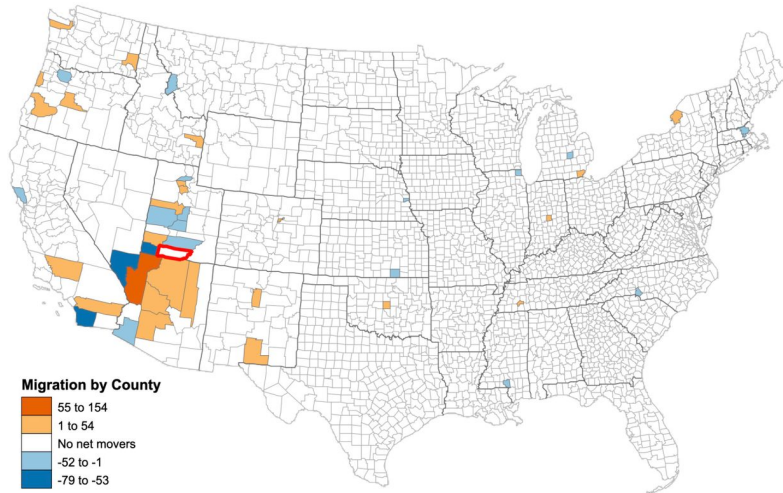


Population Composition (2018)

AGE GROUP	TOTAL	%
School Age (5-17)	10,833	20%
College Age (18-24)	8,150	15.1%
Working Age (18-64)	32,369	59.8%
Retirement Age (65+)	6,639	12.3%
85+	707	1.3%

Kane County

Net Migration (2013-2017)

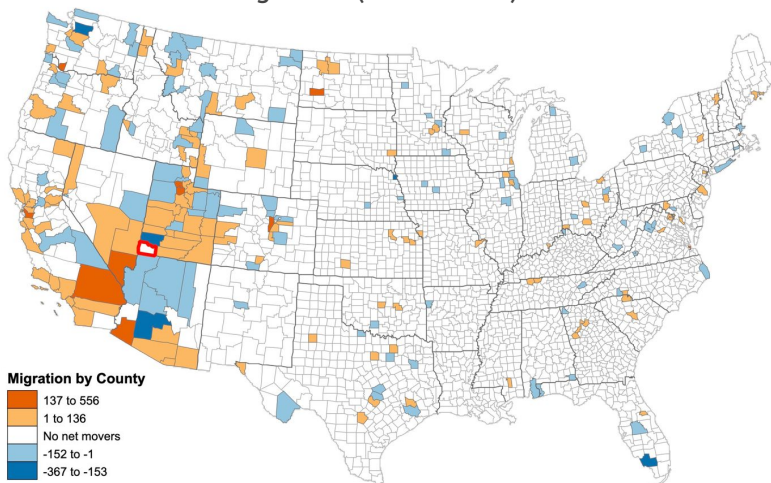


Population Composition (2018)

AGE GROUP	TOTAL	%
School Age (5-17)	1,388	18%
College Age (18-24)	512	6.6%
Working Age (18-64)	4,148	53.7%
Retirement Age (65+)	1,766	22.9%
85+	167	2.2%

Washington County

Net Migration (2013-2017)



Population Composition (2018)

AGE GROUP	TOTAL	%
School Age (5-17)	32,481	19%
College Age (18-24)	14,853	8.7%
Working Age (18-64)	90,727	53%
Retirement Age (65+)	37,252	21.8%
85+	5,571	3.3%

OPPORTUNITIES

Each weakness and strength highlighted here presents an opportunity for this region. Here we will mention a few.

1. Identifying 'Boomerang' Alumni

One significant opportunity we see is to encourage those who have left the area to 'boomerang' back and start contributing to the area again. These are the 'lowest-hanging fruit,' if you will, for attracting top talent to the area. Chances are, these people feel fondness toward the area. Bringing these people back to Southwestern Utah would be an enormous boon to the entrepreneurial ecosystem. After all, recent research indicates that entrepreneurs are disproportionately successful when they create companies in their home town due to the tangible and intangible resources they can access through their deep relationships. 'Who knows who' matters for regional growth.

2. Engaging Retirees in Mentorship Opportunities

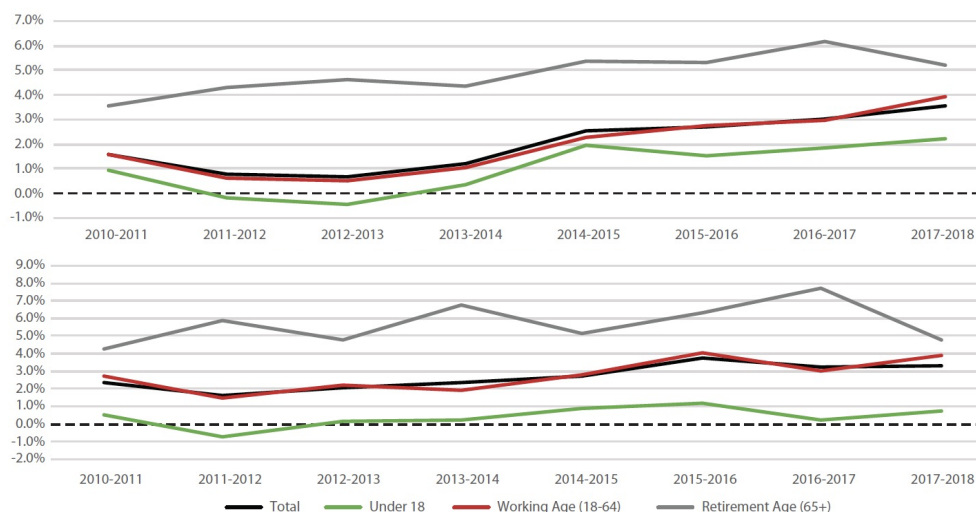
Perhaps one of the greatest untapped resources from an entrepreneurial ecosystem perspective are the many retirees who bring their experience and their wealth to Southwestern Utah when they retire. There is likely a great deal of overlap between those retirees who have had considerable business experience and those retirees who get bored golfing after the first few months of retirement. There seems to be a great opportunity to have people like this mentor young entrepreneurs. While we think it unlikely that retired individuals would want to risk financial capital by investing in a startup, we think it very likely that they would want to invest in developing entrepreneurs.

Population Dynamics

Iron & Washington Counties (2010-2018)

The unique population dynamics in Southwestern Utah can be a source of competitive advantage. To the right are graphs of the growth rates of several key age groups in Iron County (top) and Washington County (bottom).

Source: Kem C. Gardner Institute (2019)
"Demographic County Profiles"



3. Welcoming “HQ2s”

Another opportunity we see is for Southwestern Utah to turn its relative isolation into a strength by becoming the second headquarters for already established companies. There is a strong tradition of companies developing an ‘HQ2’ or a ‘Skunkworks’ far away from the company’s headquarters so that this new arm can be free to do things differently. This was the case with Intermountain Healthcare’s Precision Genomics, which originally located in St. George because it gave the program sufficient distance from Intermountain’s main headquarters to give it the liberty to innovate.

4. Leveraging Success Stories

The success stories of past entrepreneurs are essential tools to both inspire would-be entrepreneurs locally and to attract others from the outside. These entrepreneurs can serve as compelling evidence that high-growth ventures can indeed be launched in the area. They can also help to address concerns that people have about growing ventures in this area (e.g., limited talent pool, lack of capital, etc.), helping them see how they surmounted these obstacles. We have been struck by the devotion to Southwestern Utah by people like Ryan Wedig of PrinterLogic and Gary Stone of Precision Genomics and how they are showing how success can be had in this region.

These successes can be more than just stories – they can also be crucial sources of risk capital and entrepreneurial wisdom to help launch the next generation of entrepreneurs. Research by Toby Stuart of UC Berkley and Olav Sorenson of Yale University shows that ‘liquidity events’ such as IPOs or acquisitions have a strong impact on the creation of new firms in the immediate geographic vicinity.

5. Making International Connections

One last opportunity that we will highlight is to take advantage of the huge flow of international visitors to the National Parks, which is a distinct advantage Southwestern Utah has over other areas of its same size. This can be further expanded by forging relationships with people who visit the region to participate in international exchange programs through local universities and companies. By taking advantage of this unique dynamic created by the natural resources of Southwestern Utah, we believe additional resources will flow to the area. ■

THREATS

What follows are a number of threats that any entrepreneurial ecosystem faces and may be especially difficult for Southwestern Utah to deal with.

1. Conflicting Constituencies

The first is the tendency for stakeholders to want to represent their 'constituency' rather than optimizing for the greater whole. The fact that these different constituencies exist can be seen in the various denominations we use to describe the area: individual counties, the broader Five County Region, Southwestern Utah, St. George, the Greater St. George Area, the business community, the tech community, etc. In other areas, efforts to optimize around particular constituencies has led to people talking past one another and even blocked cooperation.

2. The Downsides of Growth

Rapid growth can be 'too much of a good thing.' First, a tradeoff between quantity of growth versus quality of growth: rapid growth can outpace the ability of municipalities to provide reliable services or drive individual companies to over-extend themselves in terms of capital investments. Second, growth is not universally desired among all citizens of a given area. In fact, growth can be detrimental to the 'small-town feel' that attracted many people to Southwestern Utah in the first place. Longtime members of the community can become a source of resistance to entrepreneurial efforts for this

reason. Finally, rapid growth in the short run can 'soak up' talent that is needed for long-term growth. For instance, youth may opt for good-paying construction jobs today rather than training for higher paying jobs of the future.

3. The 'Edifice Complex'

There is a tendency among governmental and university leaders to pursue the strategy of 'build it and they will come.' However, experience has shown that this can be a dangerous mentality. For example, Ed Glaeser's analysis of major cities in the US Midwest shows that the well-intended efforts by civic leaders to build nice office buildings while there was a surplus of cheap office space elsewhere was not only wasteful, but it created additional problems. As celebrated urban scholar Jane Jacobs argued, what entrepreneurs need is cheap office space—something that old, less desirable buildings can provide until the company grows. ■

PART II: RECOMMENDATIONS

RECOMMENDATIONS

"Life is what happens to you," the saying goes, "while you're busy making other plans." The same can be said of strategy. Strategy is often thought of as holding an off-site meeting, publishing a report, holding an event, or unveiling a plan. But in reality, strategy is something that is continuously enacted as people make decisions and take actions (ideally toward a common objective).

This view of strategy-making as a continual process, rather than as a discrete moment in time, can be unnerving to those of us who prefer to have more control. But recognizing that this is indeed how strategy is 'made' can be an empowering insight that leads to better outcomes. This view of strategy-making suggests a particular approach that we will describe through the work of scholars studying organizational strategy-making processes.

Recommendation 1: Forming a "Heavyweight Team"

Scholars at Harvard Business School such as Kim Clark, Steven Wheelwright, and Clayton Christensen have produced renowned work on how companies develop complex new products. Their insights are equally as relevant to a region like Southwestern Utah as they are to the individual companies they studied.

Among other things, these scholars found that success or failure often depended on the kind of team tasked to create the product. One example from their research—Honda and Toyota's attempts to create the first widely-available hybrid vehicle—is a useful illustration.

Though these two Japanese companies had the same goal, Honda and Toyota took two different approaches to develop their first hybrid car. Honda brought together a committee of representatives from each of the company's operating units (marketing, engineering, etc.). Having representatives from across the organization would ensure that their voice would be heard and their interests represented. This seemed like a sensible approach: it was very democratic, would ensure visibility into the project for each portion of the organization, and the project would benefit from the diverse perspectives of the various members. But it failed. For years, Honda's committee struggled to produce a viable product because each time the engineers on the committee came up with a new design, some part of the organization (which had honed its ability to produce cars in a particular way) would push back or negotiate for a compromise that would be more palatable to their 'constituents' (the people back in their department). By almost any standard, the resulting car was a flop.

Toyota, on the other hand, took a different approach. Instead of forming a committee, they formed what scholars call a “Heavyweight Team.” This team was tasked with producing the new hybrid, and was given the liberty to do new things that made sense for the new car rather than just what made sense for the existing organization. As a result, instead of the team members representing the interests of their department to the team, these people represented the team’s interests back to their departments. So if the steering column needed adjusting in order to accommodate the new hybrid design, then the team member from that department would go back and figure out a solution with the people there. The Toyota Prius was and continues to be a huge success.

How is this relevant to Southwestern Utah? While this region doesn’t have individual departments and is trying to develop an entrepreneurial ecosystem, not a product, the lessons still apply.

GOVERNMENT



Example of Players: mayors, commissioners, economic development professionals

Organizing Structure: hierarchical; representative

Constituency: voters within political subdivision

Logic: representing the interests of constituents

View of Entrepreneurship: something desirable but not under their direct control

BUSINESSES



Example of Players: large employers; small businesses; local professional firms; chamber of commerce

Organizing Structure: loose federation; community-based; supplier-distributor relationships

Constituency: customers; suppliers; sources of funding

Logic: doing existing things efficiently

View of Entrepreneurship: aligned with their own business objectives

UNIVERSITIES



Example of Players: DSU, SUU, Dixie Tech, Southwestern Tech, K-12 Schools

Organizing Structure: internally hierarchical

Constituency: students, alumni, professors, accreditation agencies

Logic: improving knowledge & skills of students

View of Entrepreneurship: usually confined to the subjects they teach; potential path for their students

ENTREPRENEURSHIP



Example of Players: entrepreneurs; would-be-entrepreneurs; capital providers

Organizing Structure: flat; community-based; collaborative & competitive

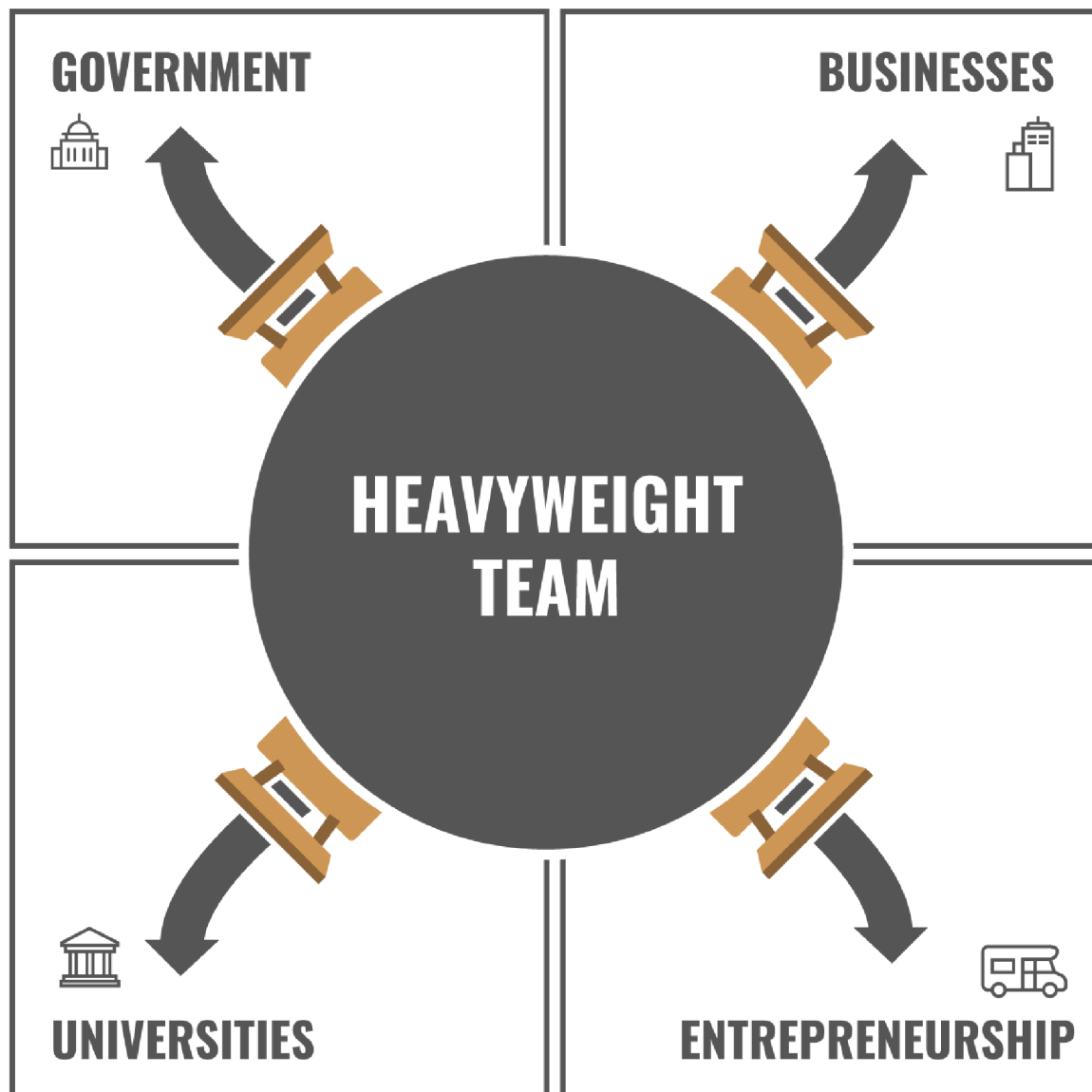
Constituency: sources of funding; customers; advisors

Logic: creating something new

View of Entrepreneurship: aligned with their own business objectives

Our interviews with numerous stakeholders in Southwestern Utah (and informed by studying ecosystem development efforts in places as diverse as Kentucky and Singapore) reveal that there are four broad groups that each have distinct characteristics. As the diagram below shows, these groups each have obligations to particular ‘constituencies,’ function by a particular ‘logic,’ view entrepreneurship differently, and are organized differently. There is of course variation within each of these quadrants and overlap between them, but this model helps to show how, just like in a company with different departments, a region has divisions that can slow down ecosystem development.

We propose that a Heavyweight Team be created that is distinct from any of these quadrants. This team would be an alliance that meets frequently and develops a unified vision, goals, and strategy for developing the ecosystem that is not constrained by any particular municipalities’ or businesses’ goals. This is not a legislative body representing the interests of each individual subdivision of society;



rather, it is a group of people who are committed to the overall goal of creating a vibrant entrepreneurial ecosystem that generates economic growth. We have observed this already happening informally, and that is encouraging; we recommend that you formalize and accelerate these efforts.

Membership in this alliance should be guided by an overarching principle: members need to be committed to the overarching goal and have the power to go back to their ‘quadrants’ and carry out what the Heavyweight Team determines needs to be done. They cannot simply represent the interests of their ‘constituencies’ to the team; they need to represent the interests of the team to their ‘constituencies.’

Once the team is formed, the next order of business is to define the team’s initial goals and strategy for achieving them. This should include the following elements:

ROADMAP FOR THE REGION: looking 5-15 years down the line, what are the milestones that need to be reached to achieve the region’s potential?

MEASUREMENT OF KEY RESULTS: there are many ways to do this. John Doer's book *Measure What Matters* describes one process for continually identifying and measuring OKRs (Objectives & Key Results) that could be applicable here.

UNIFIED PROMOTION STRATEGY: the team should also develop a unified approach to promoting the area – through marketing, PR, advertising, and relationship building.

The team would meet regularly and continuously fine-tune the strategy they are implementing. See the Appendix for more information on Heavyweight Teams.

Who should take the lead?

Who is best to lead efforts to encourage an entrepreneurial ecosystem? In his book "Boulevard of Broken Dreams" (2012), Harvard Business School Professor Josh Lerner argues that, while the government can “set the table” and create the conditions for successful innovation-driven growth, it cannot lead such efforts. Brad Feld in his “Start-Up Communities” (2012) book suggests an alternative “Boulder Hypothesis,” arguing that entrepreneurs are the only individuals who can meaningfully lead ecosystem-building, because they are the leaders (and not ‘feeders’) on the frontlines. Mazzucato’s “Entrepreneurial State” (2015) posits a strong and central role for governments and policy-makers. Our view is somewhere in the middle of these extremes. We adopt the view of MIT Professors Fiona Murray and Phillip Budden that multiple stakeholders must be involved for these efforts to succeed. Who leads out is a function of each area’s particular circumstances, the availability and vision of its leaders, and the desired objective. In fact, it is ideal to rotate between leaders across different quadrants. However, we will urge caution that the leaders of institutions like government, universities, etc. do not overrun the entrepreneurs. Since, at the end of the day, the goal is an entrepreneurial ecosystem, not an institutional ecosystem.

Recommendation 2: Broadening Networks

A second major recommendation area is to deliberately broaden and diversify the network of people, companies, and regions connected to Southwestern Utah. We have several specific actions in mind:

1. DEVELOP A DELIBERATE VC SOLICITATION PROGRAM: we recommend developing an active solicitation program to attract sources of risk capital. The first step, and something the Business Resource Centers can spearhead, is to develop a full database of local startups and then ensure they are listed on funding platforms like CrunchBase and PitchBook, and that local investors are listed on places like AngelsList. This will put these companies on the radar of more distant investors looking for investment opportunities and demonstrate to outsiders just how robust the entrepreneurial ecosystem is in the region.

Additionally, our research into comparable regions, like Bend, Oregon, Bozeman, Montana, and Coeur d'Alene, Idaho, revealed that there are a number of VCs that are specifically geared toward places like Southwestern Utah (e.g., Rise of the Rest; NEXT Frontier; Mountain Man Ventures). Another arm of this effort is to educate local entrepreneurs on how to successfully apply to national accelerators like YCombinator and TechStars.

2. LAUNCH AN ONGOING SYMPOSIUM: where expertise is not available in Southwestern Utah, you can bring in people from outside to hold symposiums on those topics. This can also be a targeted way to bring in fresh ideas and resources, while increasing the stock of human capital in the region. Speakers should include entrepreneurs, scholars, VCs, etc. This is also a way to continually attract investors and keep Southwestern Utah top of mind.

3. DEVELOP RELATIONSHIPS WITH COMPARABLE REGIONS IN THE US: there is enormous opportunity for Southwestern Utah to develop ties with comparable regions and exchange ideas and learnings. The regions identified in this study (Coeur d'Alene, Idaho; Bend, Oregon; and Bozeman, Montana) would be a good place to start.

4. MULTIPLY SCHOOL-TO-INDUSTRY TIES: the schools in the area can contribute to the growth of the region by building relationships with national and international companies that lead to internships, jobs, and higher paying wages for their students. Dixie Tech has set a goal to do this in each of its programs in the coming year, and it has already started to form a relationship with Yamaha for one of their programs.

5. IDENTIFY & ATTRACT 'BOOMERANGS': collecting data on who has left the region, why they left, and what it would take to bring them back is of paramount importance. Prior to the advent of LinkedIn, this would be very difficult to do. But now many graduates and former residents publicly disclose that information. We envision SUU's and DSU's institutional effectiveness and alumni offices collaborating to identify these individuals, and working with local leaders to make returning appealing for these people.

Lessons can be learned from countries who have pursued this strategy. For example, China has kept close tabs on engineers and leaders trained in the US and then enticed them to come back to their home country. Southwestern Utah could do the same, albeit on a smaller scale. For instance, the Universities could offer 'visiting scholar' positions such as those offered to academics who are 'alumni' of the region to return during their sabbaticals.

Another approach could be to identify people who are living elsewhere (for example, in Northern Utah or Las Vegas) but whose work would allow them to telecommute from Southwestern Utah and entice them to relocate.

Recommendation 3: Targeting 'Clusters of Related Variety'

There is a tension at the heart of organized efforts to foster entrepreneurial ecosystems: it is impossible to predict the future (especially the future of innovation); yet institutional leaders in government, universities, and established businesses are expected to plan and prepare for the long run. How do you resolve this tension?

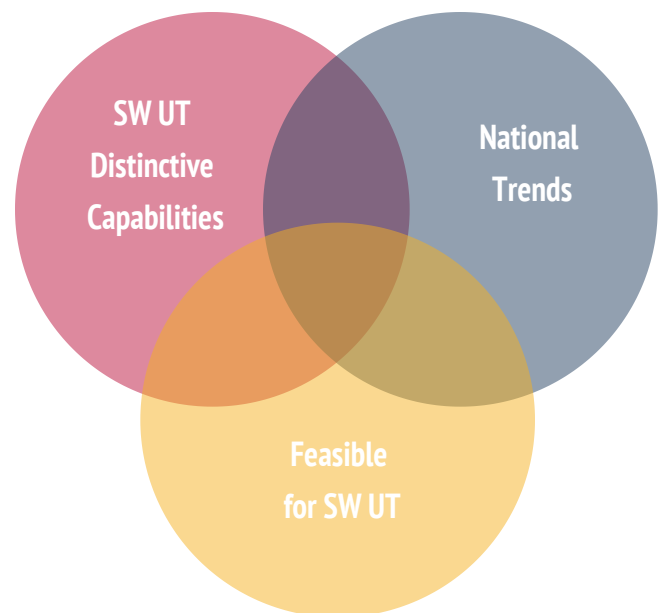
As just noted, we think Heavyweight Teams are part of the solution, since they are conducive to both *focus* and *flexibility* (see the introduction to this report for how we define these terms). One way heavyweight teams can promote an appropriate level of focus is by pointing ecosystem members toward promising areas for entrepreneurial activity. Because the future is uncertain, there is no guarantee that any one of these 'promising areas' will succeed. However, taking a 'portfolio' approach can increase the likelihood that a region succeeds overall.

Targeting what we call 'clusters of related variety' enables a region to build a portfolio of focus areas that helps it strike a delicate balance between specialization and variety (see Principle #5 on page 7). These clusters are not industries, strictly speaking. They are collections of related industries that can serve as focal points for diverse ecosystem players, allowing them to coordinate activities, investments, and messaging while still acting autonomously.

IDENTIFYING CLUSTERS

We believe it is the responsibility of local players to define these cluster areas (both through analysis and action), and to constantly calibrate them based on changes in the local and macro economy. In the pages that follow, we provide a key ingredient to this process: identifying promising industries that could be part of these clusters. We hope to also lay bare our procedure for identifying promising industries, which triangulates between three key factors:

- 1) Southwestern Utah's Distinctive Capabilities;
- 2) National Trends; and
- 3) What is Feasible for Southwestern Utah.

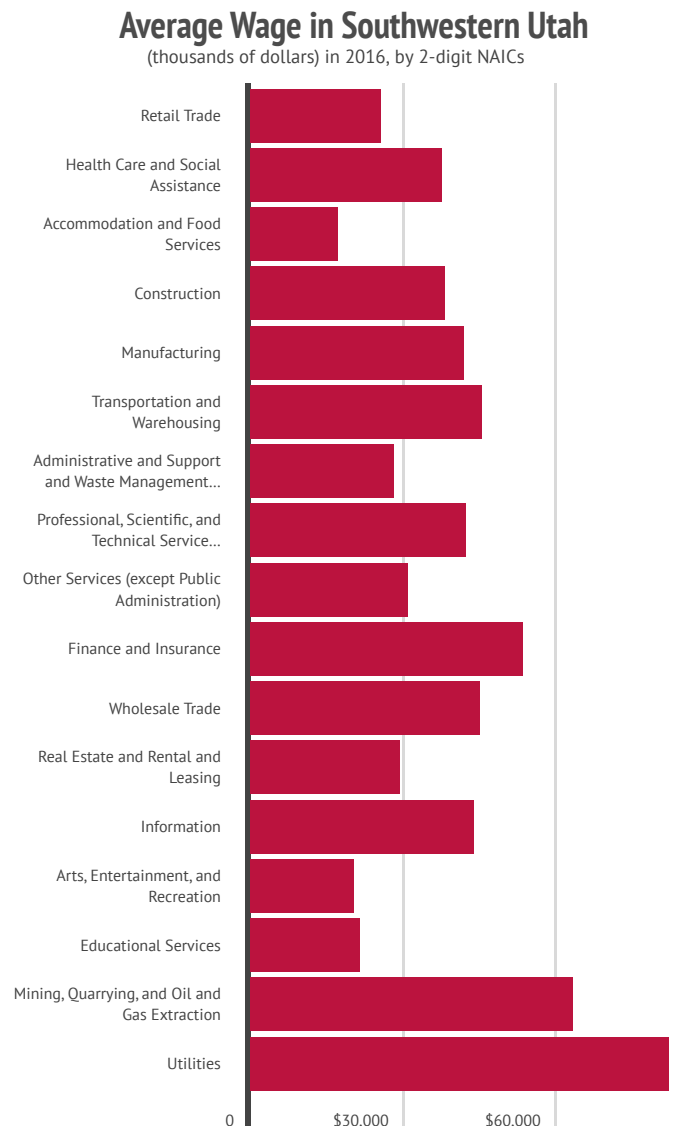
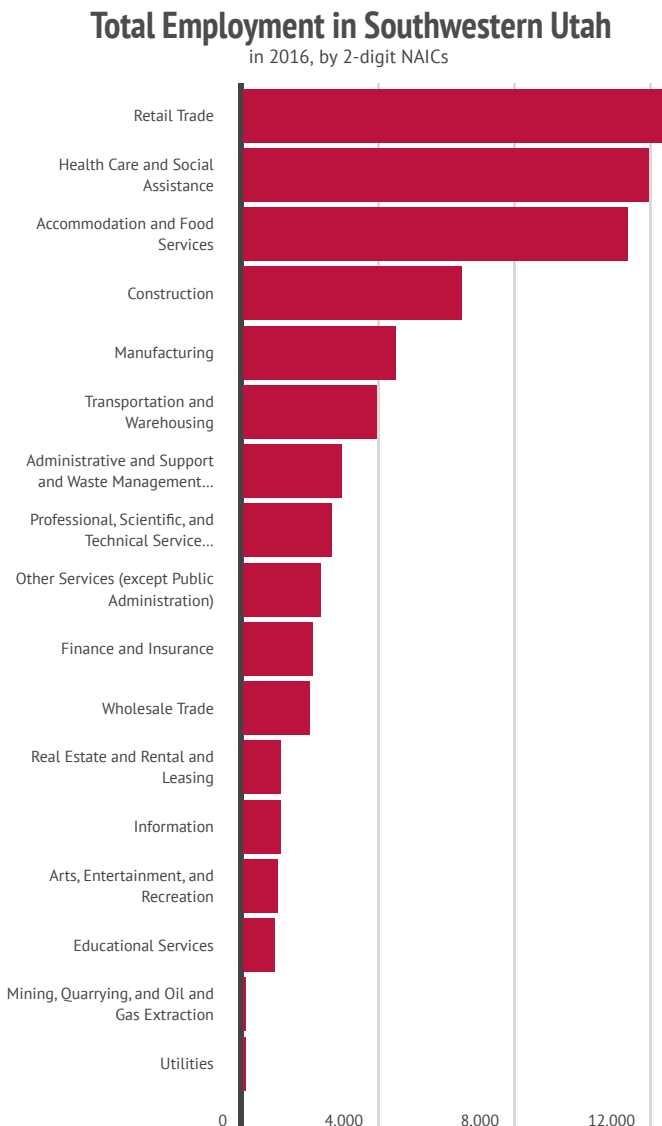


Triangulation Procedure

We believe it is important to walk you through each step of the 'triangulation' procedure we followed to identify promising industries in Southwestern Utah.

STEP 1: HIGH-LEVEL VIEW OF INDUSTRY SIZE IN SOUTHWESTERN UTAH

We first mapped the broad contours of Southwestern Utah's economy. By looking at 2-digit NAIC codes, we can identify how big each industry is in terms of employment and wages. The left graph below shows that a large proportion of employment is concentrated in “Healthcare and Social Assistance,” “Retail Trade,” and “Accommodation and Food Services.” As you may recall from earlier in the report, this industry composition is typical of a region like Southwestern Utah. However, these industries don’t pay high wages like other industries further down the list, as the right graph below shows.

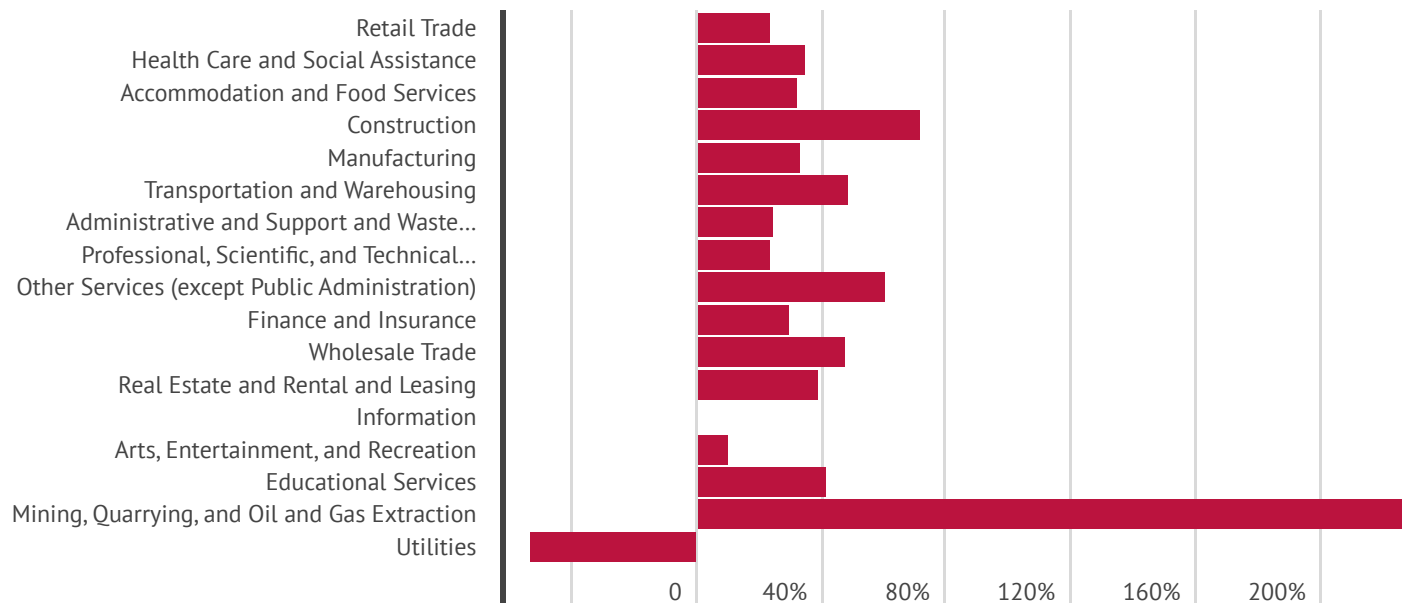


STEP 2: GROWTH OF INDUSTRIES IN SOUTHWESTERN UTAH

The next step was to understand how these broad areas have been growing. Once again, we look at 2-digit NAICs to give us an overall picture of the local economy and list the industries by size. This tells us to disregard the large bars at the bottom of these graphs since they are relatively small industries. The top graph below shows trends in employment growth. Even more interesting is growth in wages within each of these broad industry categories, shown in the bottom graph.

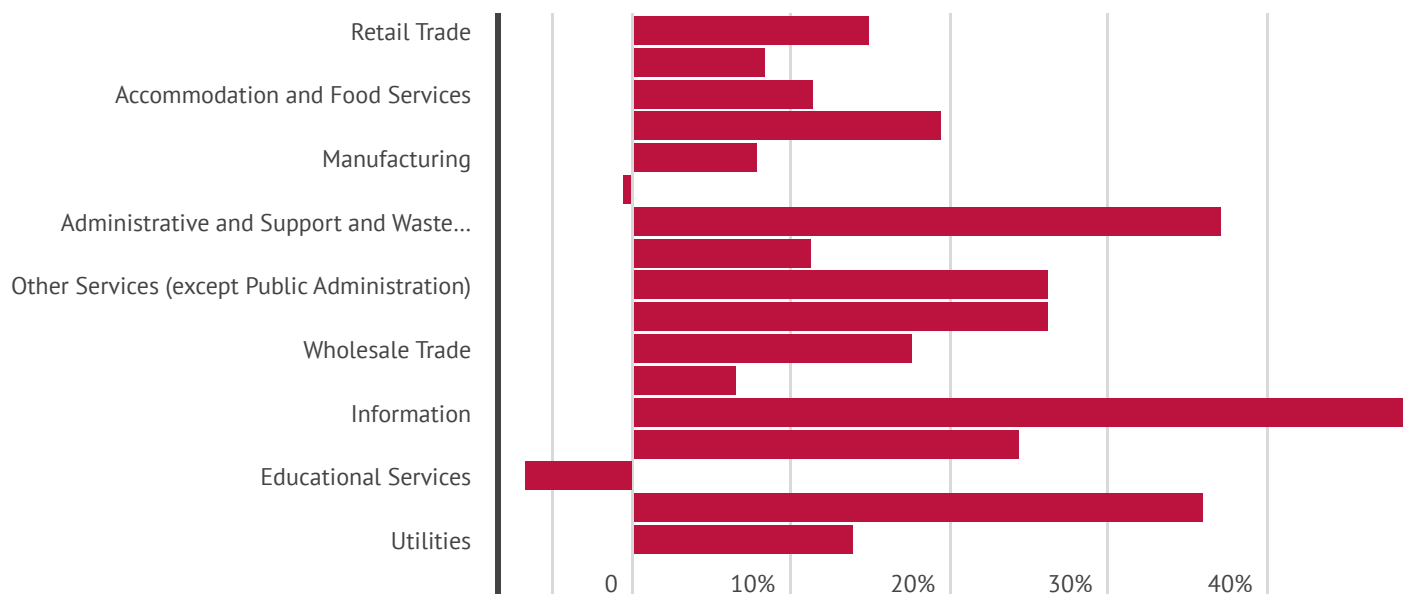
Growth in Total Employment in Southwestern Utah (%)

from 2011 to 2016, by 2-digit NAICs



Growth in Average Wage in Southwestern Utah (%)

from 2011 to 2016, by 2-digit NAICs



STEP 3: REDUCE LIST BASED ON THREE CONDITIONS

Our third step was to take information from the first two steps and use that to select 2-digit industry categories that exhibited at least two of the following conditions: 1) has high growth; 2) Southwestern Utah has cumulated experience or comparative advantage; and 3) is a “traded” industry that could scale beyond Southwestern Utah and therefore could attract venture funding.

This exercise produced the following list (with Census NAIC codes and definitions):

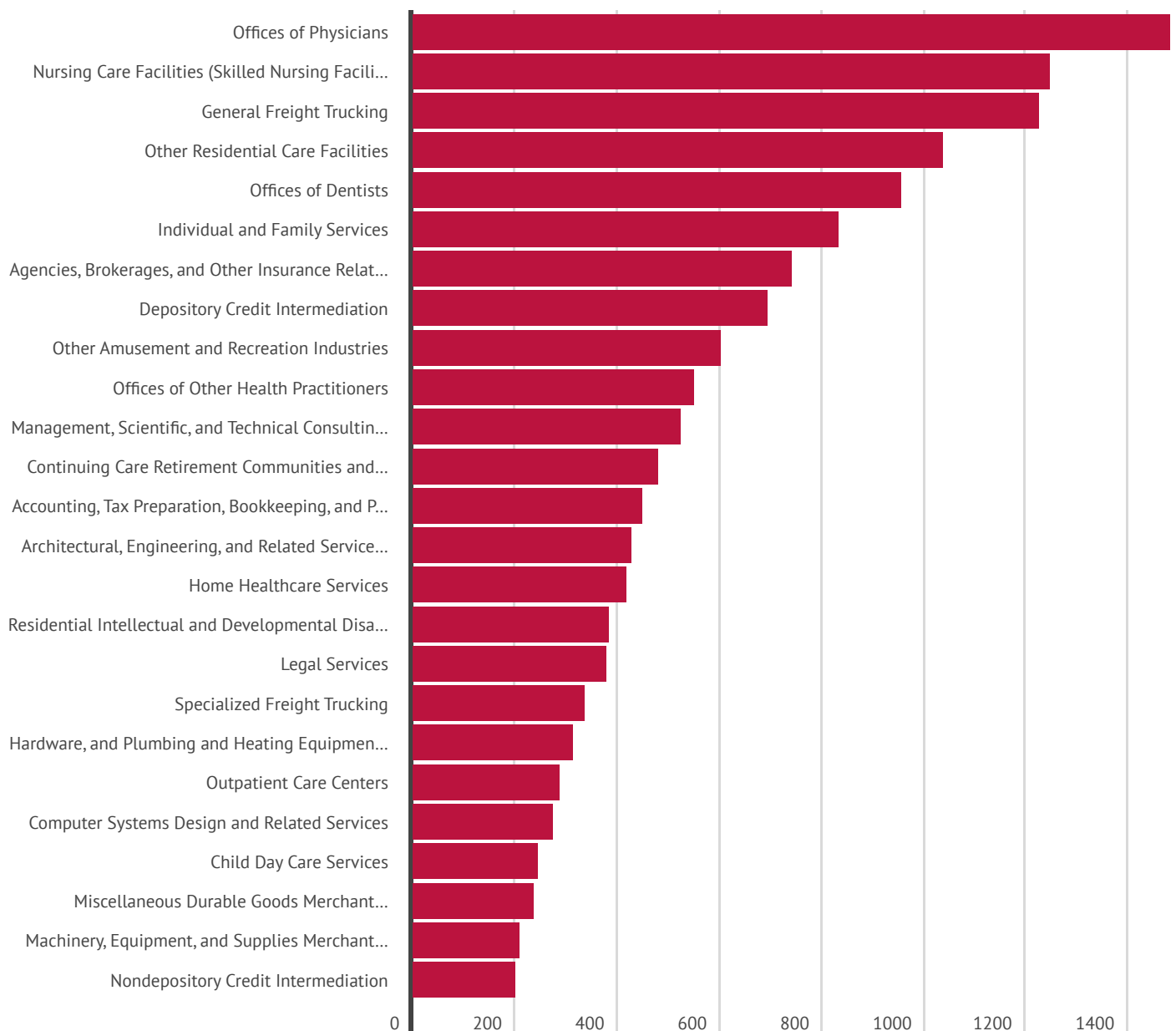
- **Information** (NAIC: 51) “Activities of this sector are distributing information and cultural products, providing the means to transmit or distribute these products as data or communications, and processing data.”
- **Healthcare & Social Assistance** (NAIC: 62) “Activities of this sector are providing health care and social assistance for individuals.”
- **Manufacturing** (NAIC: 31) “Activities of this sector are the mechanical, physical, or chemical transformation of materials, substances, or components into new products.”
- **Professional, Scientific & Technical Services** (NAIC: 54) “Activities of this sector are performing professional, scientific, and technical services for the operations of other organizations.”
- **Wholesale Trade** (NAIC: 42) “Activities of this sector are selling or arranging for the purchase or sale of goods for resale; capital or durable nonconsumer goods; and raw and intermediate materials and supplies used in production, and providing services incidental to the sale of the merchandise.”
- **Finance and Insurance** (NAIC: 52) “Activities of this sector involve the creation, liquidation, or change in ownership of financial assets (financial transactions) and/or facilitating financial transactions.”
- **Arts, Entertainment & Recreation** (NAIC: 71) “Activities of this sector are operating or providing services to meet varied cultural, entertainment, and recreational interests of their patrons.”
- **Transportation and Warehousing** (NAIC: 48) “Activities of this sector are providing transportation of passengers and cargo, warehousing and storing goods, scenic and sightseeing transportation, and supporting these activities.”

STEP 4: DRILL DOWN TO 4-DIGIT INDUSTRY LEVEL

We then drilled down to the 4-digit industry level to take a more granular look at where people are employed within these eight industry categories. As you can see from the first graph below, there is a lot of employment within “local” businesses like local healthcare practitioners and service centers. As noted at the outset of this report, these businesses are absolutely necessary for a healthy ecosystem. However, they are not going to grow much faster than the local population or attract very much outside capital.

Employment Totals in the Eight Selected Industries

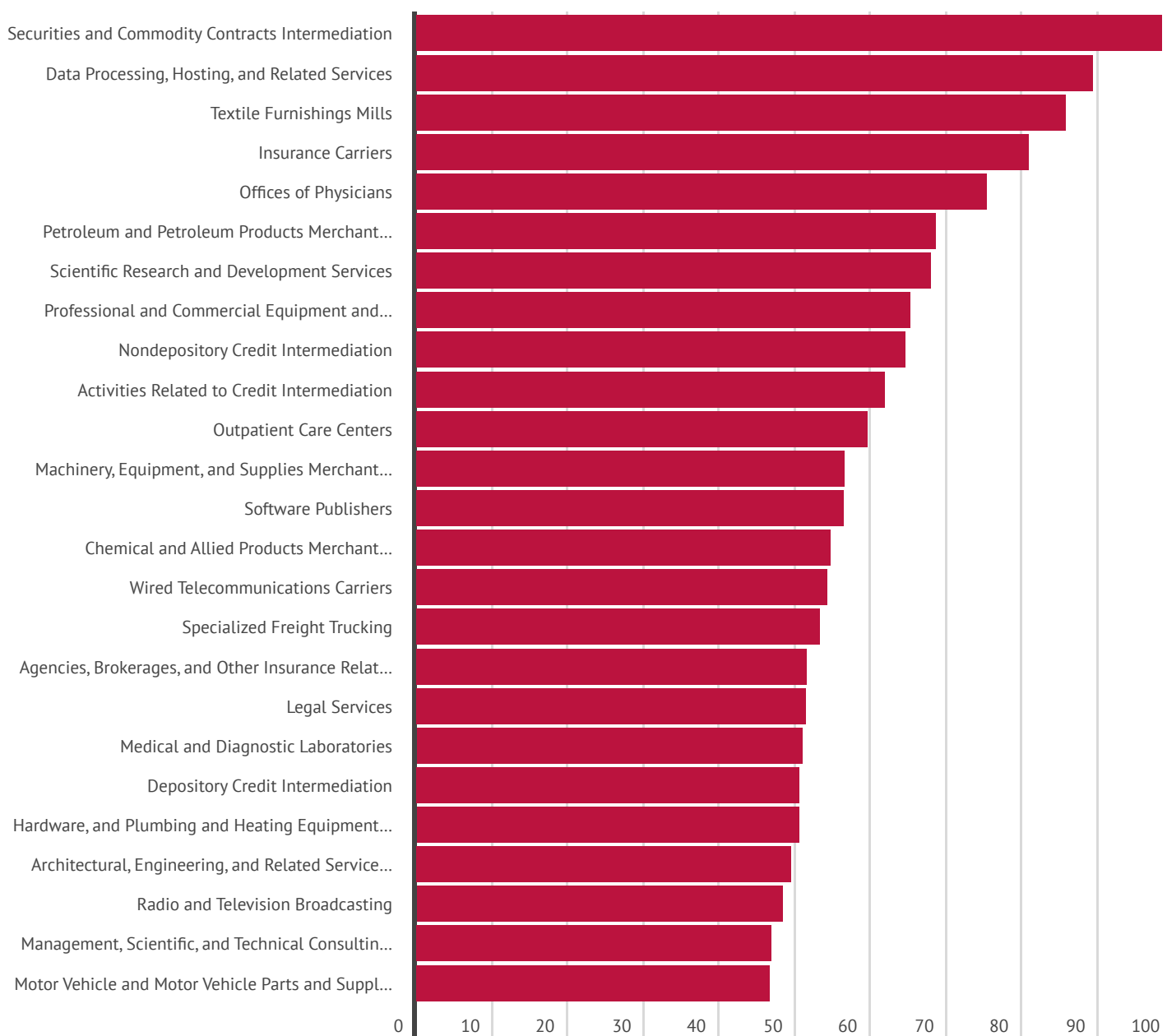
in 2016, by 4-digit NAICs



In this next graph, we plot wages for the top 25 of these 4-digit industries to show where wages are highest. In contrast to the employment graph, which was dominated by “local” industries, the highest wages are mostly in “traded” industries. There are some interesting verticals here that match what we’ve seen qualitatively, like tech (data processing, software publishers) and science (Management, Scientific, and technical consulting, R&D services). There are also many specialized wholesalers (motor vehicle parts, chemical, machinery).

Highest Wage Growth in the Eight Selected Industries (%)

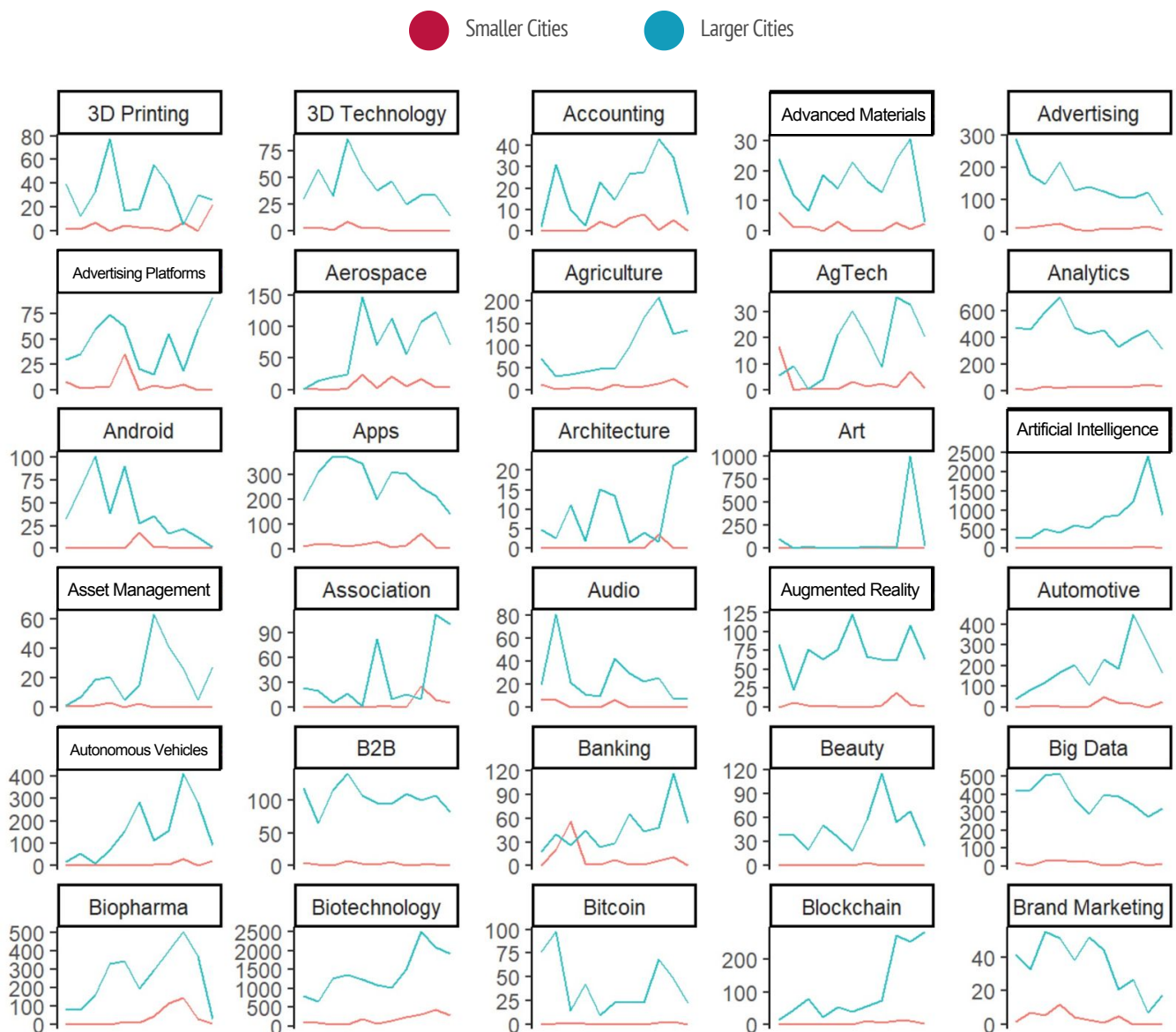
from 2011 to 2016, by 4-digit NAICs

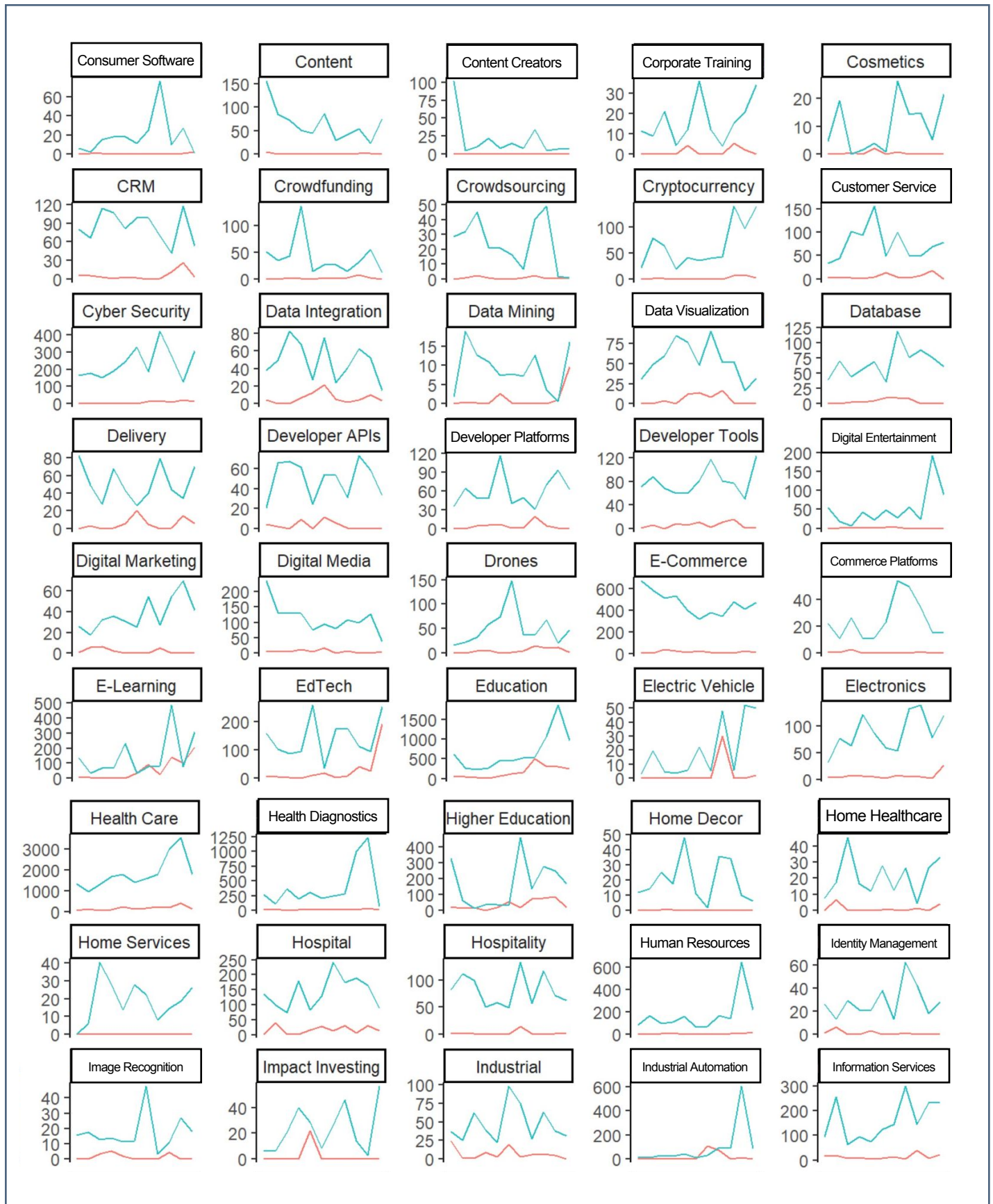


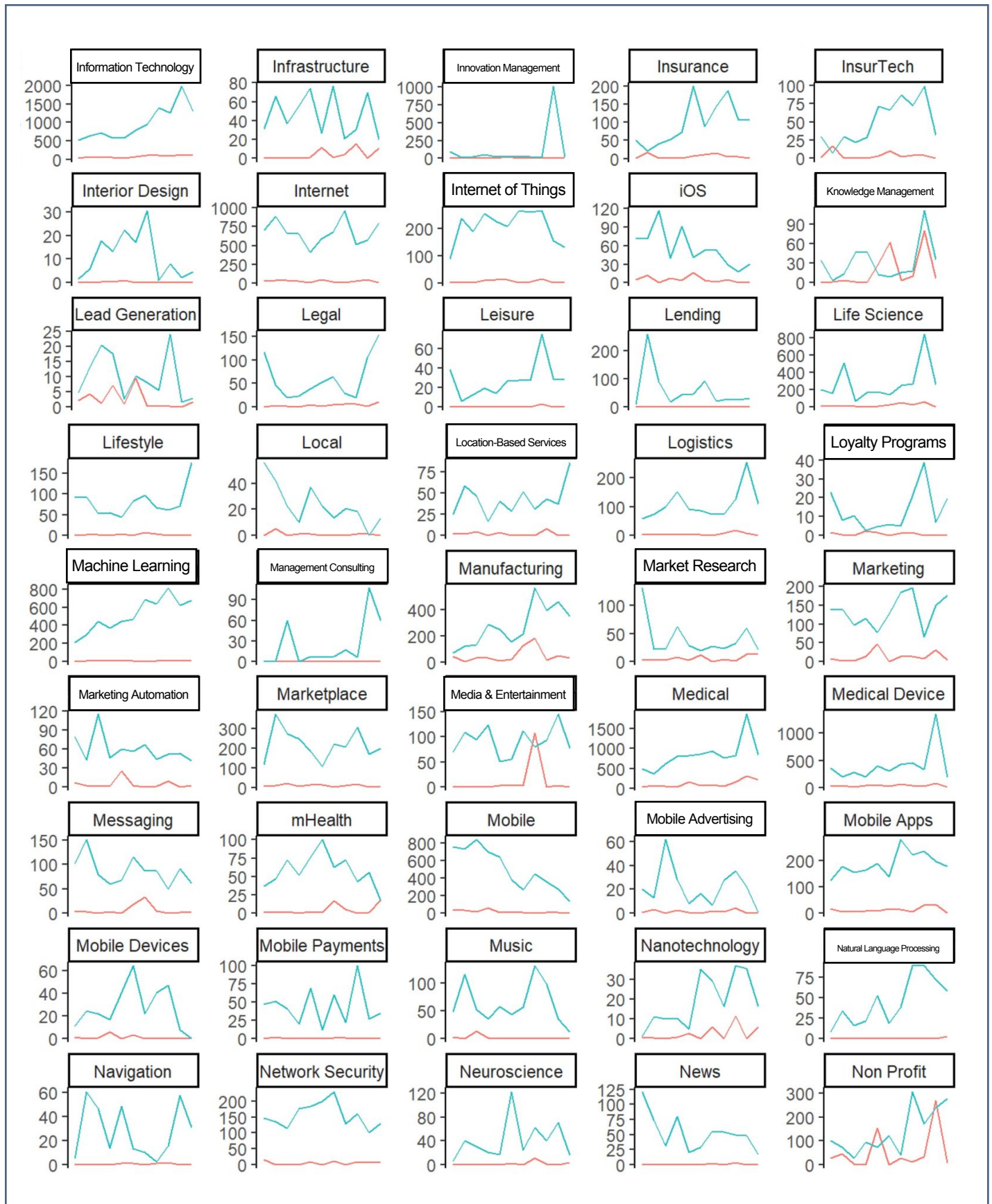
Nationwide Venture Funding Trends (2014-2019)

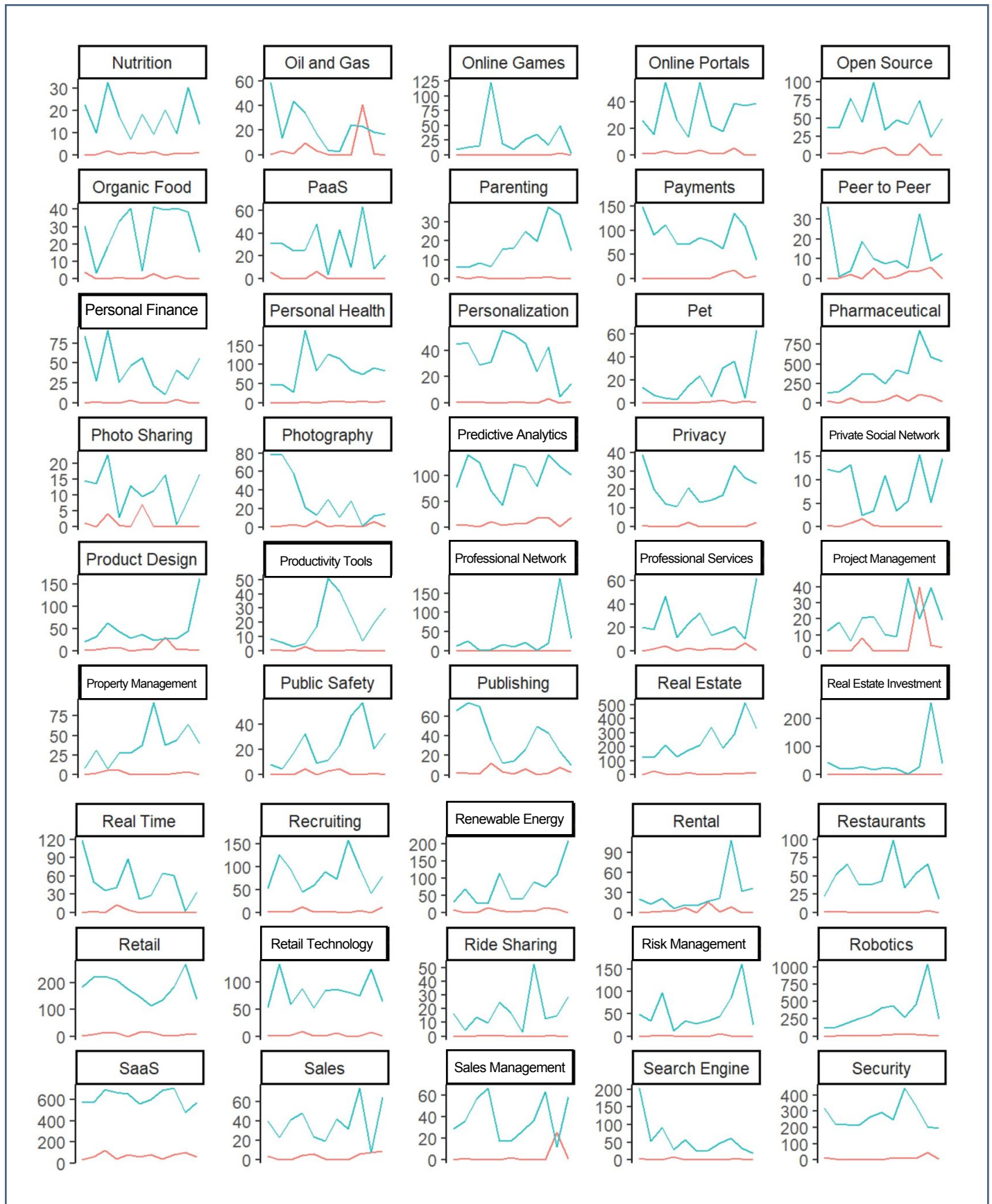
The following graphs show nation-wide trends in venture funding between 2014 and 2019, as reported in the CrunchBase database. To provide additional insight to Southwestern Utah, we separated out funding between smaller/larger cities (population less/more than 200,000).

The vertical axes show total amount of funding in millions of US dollars and the horizontal axes are split into six month trend segments. More important than the exact timing of funding, however, are the general trends captured in these graphs.











STEP 5: ANALYSIS OF IDENTIFIED INDUSTRIES

In this final step, we go through each of the eight identified industries to connect the regional data just presented with broader industry trends, local capabilities, and the experience of comparable regions.

Information (NAIC 51): according to the regional industry data, this is a high growth area for Southwestern Utah in terms of wages and employment (especially in Cedar City). A more granular look at the 4-digit industry sectors reveal that, from 2011-2016, “Software Publishers,” “Computer Systems and Design,” and “Data Processing, Hosting and Related Services” have all seen tremendous gains.

Industry growth models developed by the Kem C. Gardner Institute of the University of Utah support this observation, projecting that the "Information" industry will grow at a strong 2.33% compounded annual growth rate in Utah between 2016 and 2030.

Finally, nationwide investment patterns reflect the great promise investors see in this area (see graphs on previous page for investment trends in areas such as "Software," "Information Technology" and "Machine Learning"). As you will see, there is fairly robust funding even in smaller cities in these areas, due to the sheer magnitude of funding in this industry. Our analyses of comparable regions like Bend, Oregon, and Coeur d’Alene, Idaho, also provide proof that it is possible in a place like Southwestern Utah to attract risk capital for investments in the "information" industry.

In terms of local capabilities, a cluster of tech-related firms has begun developing in various parts of the Five County region. Especially concentrated activity is happening in St. George, where the City of St. George and other leaders have made major investments in the development of Tech Ridge. This bodes well for future development of a technology cluster.

Gardner Industry Trends Model - State of Utah (2016-2030)
Projected Compound Annual Growth Rates (CAGR)

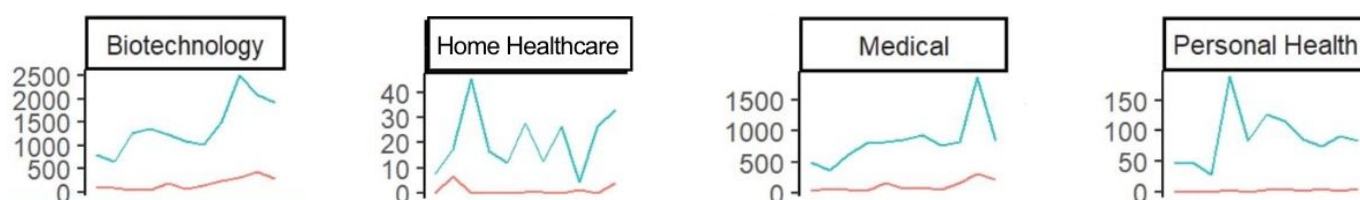
INDUSTRY	CAGR	INDUSTRY	CAGR
Information	2.33%	Transportation & Warehousing	1.02%
Finance & Insurance	1.62%	Retail Trade	0.38%
Professional & Technical Services	3.47%	Wholesale Trade	1.54%
Healthcare & Social Assistance	2.35%	Manufacturing	0.98%
Arts, Entertainment & Recreation	1.53%	Utilities	-1.60%

Source: Kem C. Gardner Policy Institute (2018) "Gardner Industry Trend Models"

Healthcare & Social Assistance (NAIC 62): this is a very important area for Southwestern Utah. There is already a solid base of healthcare-related skills and technology and that is projected to continue to grow (the Gardner Industry Trend Model projects a 2.35% compounded annual growth rate over the next decade in this industry).

There is potential for 'traded' businesses in healthcare, but much of what's going on in Southwestern Utah currently is 'local' (offices of physicians, local hospitals, and nursing homes). Moving forward, there needs to be greater focus in this industry on higher growth potential areas, such as BioTech, Medical Technology, Home Healthcare, and Medical and Diagnostic Laboratories (see below for select venture funding trend graphs).

As such an integral part of the economy, healthcare also likely has many opportunities for tangentially related innovation and startups. For example, Southwestern Utah may be the perfect area for a health tech company that develops software for geriatric care.



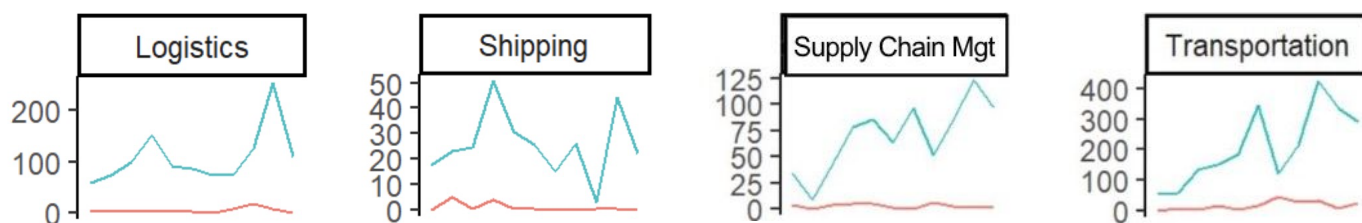
Manufacturing (NAIC 31): manufacturing employment and wages have been growing modestly in both St. George and Cedar City MSAs. Although it's unlikely Southwestern Utah will be able to compete with large manufacturing players (such as China or the Midwest), success seems possible in specialized manufacturing verticals (for example, in aviation componentry). Trends in venture funding nationwide support this view (see funding graph for "Industrial Automation" (pg. 59) and "Manufacturing" (pg. 60).

Professional, Scientific & Technical Services (NAIC 54): this industry has been experiencing modest growth in employment and wages in Southwestern Utah. The Gardner Industry Trend Model predicts that this will be one of the strongest growing sectors of the Utah economy for the next decade, with a projected 3.47% compounded annual growth rate.

This industry is also important because scientific talent is a key form of 'infrastructure' in the knowledge economy. As noted previously in this report, Southwestern Utah is well-positioned to grow in this area because of its strong educational institutions and programs.

Wholesale Trade (NAIC 42): this is a large and moderate-growth industry in the region, but unlike local retail stores, wholesale trade is more likely to have high growth potential. A strong wholesale trade industry could also invigorate manufacturing and transportation & warehousing, two other important industries in Southwestern Utah.

Transportation & Warehousing (NAIC 48): this industry has been an important part of the economy of Southwestern Utah for decades and promises to continue to be in the future (the Gardner Industry Trends model projects a respectable 1.02% CAGR for this industry). Southwestern Utah's location at the crossroads between Southern California and points north along the Rocky Mountains is a durable source of competitive advantage. But no less important is the wealth of knowledge and expertise that this area has developed about trucking and other forms of regional transportation. In recent years, there has also been an upsurge in venture funding in this area, suggesting it has promise.



Finance & Insurance (NAIC 54): in recent years this industry has been growing well in Southwestern Utah, both in terms of employment and wages. The Gardner Industry Trends model predicts a 1.62% CAGR in this industry from 2016 to 2030. This industry promises to be especially lucrative in St. George because of all the retirement money that flows in with retirees. Also, strong credit and finance infrastructure is important for funding entrepreneurial ventures.

Arts, Entertainment & Recreation (NAIC 71): this is a large and growing industry in the region, driven in large part by tourism, and is projected to continue to grow at a 1.53% CAGR. Venture funding in this area has also been strong in recent years (see "Tourism" and "Travel" funding trends on page 62). In addition to the direct economic benefit of businesses in this industry, there is also plenty of secondary benefits: making the region a livable place, attracting human capital for jobs, and making Southwestern Utah a 'destination' for symposia, conferences, and events.

CONCLUDING THOUGHTS

This study has been future-focused. But because the future does not yet exist, we have had to rely on information from the past to develop our ideas. We have done so with the most reliable data and most rigorous methods available to us, and we hope this report is useful.

However, the difficult—and beautiful—thing about the future is that it can break with the past. Changes happen that defy what mountains of data about the past suggested might happen. This is because the future is created as individuals take action.

As much as this study has focused on ideas and analysis, we recognize that of much greater importance are what will be *done* because of it. It is our hope that the ideas and information in this document does indeed spur—in some small way—that special kind of action that will lead Southwestern Utah to achieve its immense potential.

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