



Growth Lab

Identifying local opportunities: Union County

January 2025

Key Takeaways on Union County's Economic Snapshot



The first part of this presentation provides an economic snapshot of the county. The following key takeaways stand out.

- **Economic cluster:** Union County is located in the northeastern corner of the state. It is the only county sharing a border with Oklahoma and also borders Texas and Colorado. It contains a small geographic cluster that centers around the Town of Clayton and barely crosses the state lines into Dallam County (TX).
- **Long-term trajectory:** Like many rural counties, it reached its peak population many decades ago. Union County has been losing residents since 1920. There was a brief reversal of this trend between 1990 and 2010. However, in the most recent decade, it has returned to its historical decline. Currently, the county has about 4,000 residents.
- **Recent economic performance:** Its population decline coincides with a worsening situation in the county economy. No other county experienced a steeper fall in income level and economic output. Gross County Product (GCP) has been steadily declining throughout most of the 21st century. Its GCP today is half of what it was in 2001.
- **Underlying economic engines:** The decline of the mining, oil, and gas sector explains the long-term economic decline. This sector accounts for around 30% of GCP and has substantially decreased in output. Government economic activity, the second-largest sector has remained stagnant. The few bright spots are a consistent expansion of the information sector alongside education and health services. In the previous decade, the manufacturing base also grew, but it is unclear based on limited available data what drove this growth and if it can be sustained.
- **Housing dynamics:** There are 10% fewer housing units now in the county than in 2014. This decline was mostly driven by the reduction of single-family units. Other rural counties experienced a shrinking housing stock, but not as pronounced as in Union County. The vacancy rate remains high at 30%, though most of the vacant units are not available for rent or sale.
- **Conclusion:** Union County urgently needs additional economic drivers if it is to reverse its long-term decline. The mining, oil, and gas sector has been the primary source of tradable income, while emerging sectors such as information have not been able to offset its decline.

Observations on Union County's Diversification Opportunities



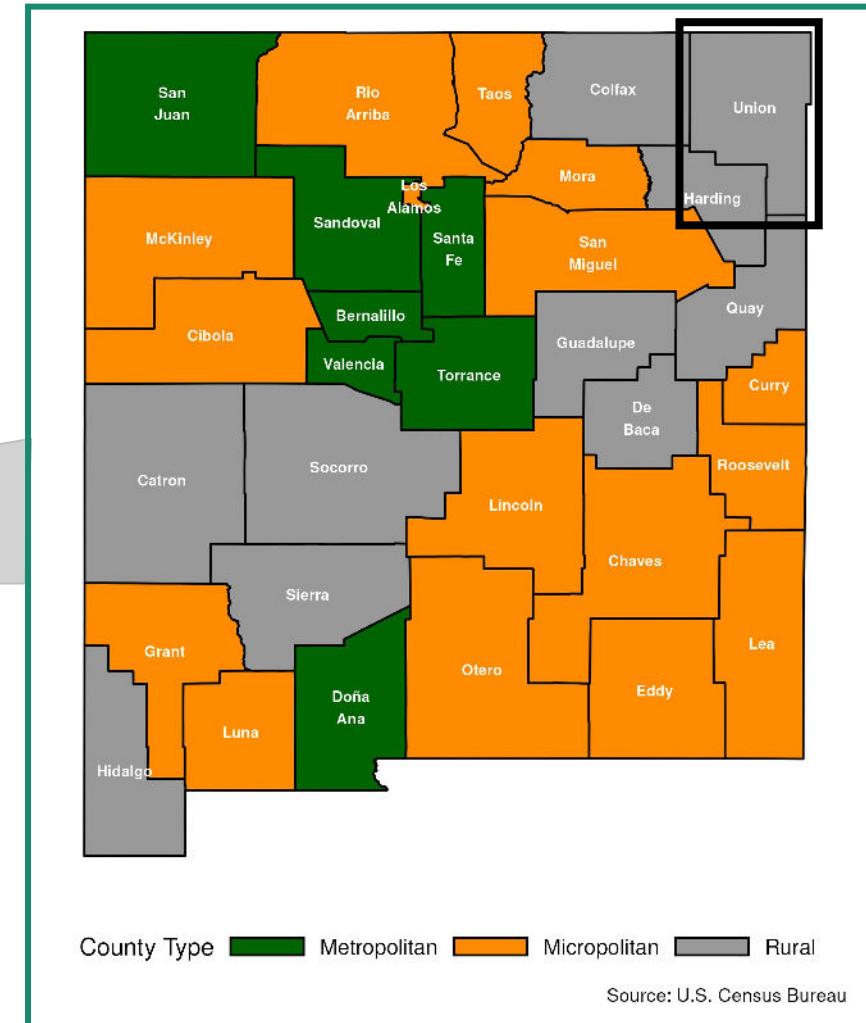
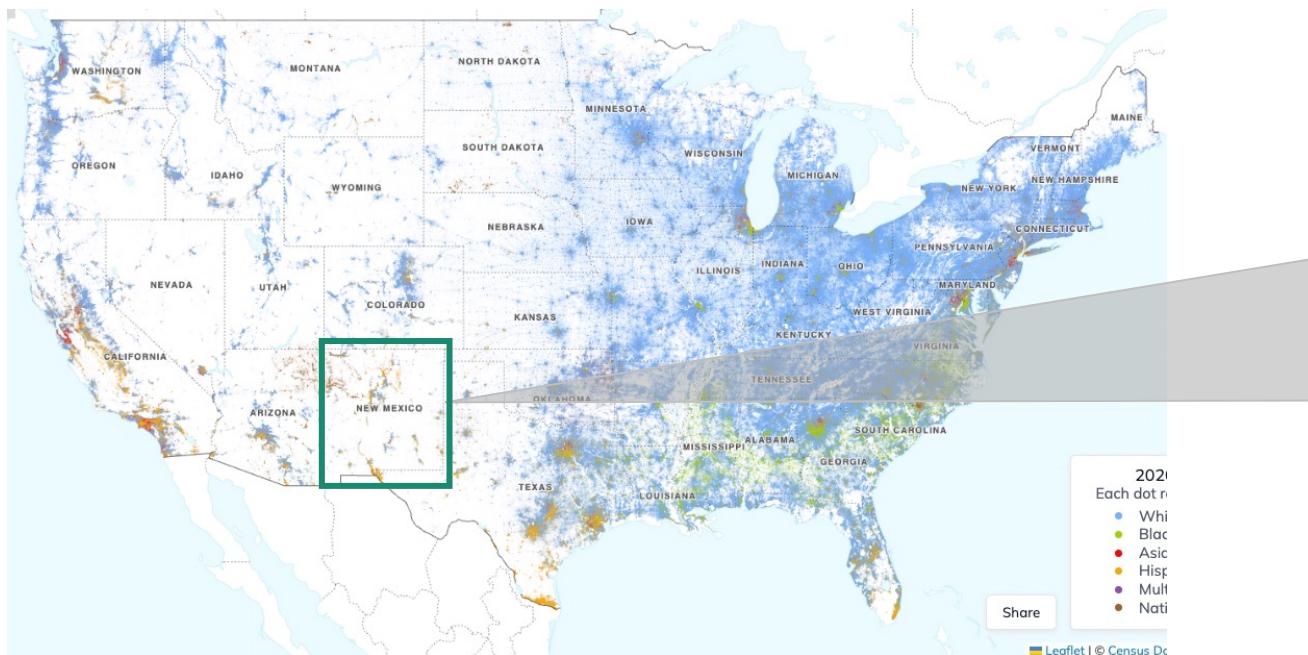
The second part of this presentation provides an analysis of diversification opportunities grounded in an economic complexity approach. This analysis is meant as an input for local strategy rather than a conclusive list. Several observations are noteworthy that may warrant local investigation.

- **Information, a small part of the economy, could continue to grow by developing complementary industries.** This sector accounts for less than 5% of the county economy, but it has been growing at 5% annually in recent years. Within the “Publishing and IT services” cluster, there are some generally non-tradable industries such as “Newspaper Publishers” and “Web Search Portals and All Other Information Services”. The county could leverage these existing productive capabilities to develop more tradable industries in the same cluster, such as “Media Streaming Distribution Services, Social Networks, and Other Media Networks and Content Providers”.
- **The county is expanding in education and health service economic activity, which could be a reliable source of tradable income.** Expansion in the education and health services sector was more noticeable in the previous decade, while in more recent years it has remained stagnant. With the available information, it is clear that two industries have been adding jobs in the commuting zone (CZ): “Elementary and Secondary Schools” and “Colleges, Universities, and Professional Schools”. The latter industry could generate the tradable income that the county urgently needs.
- **Manufacturing, once a driver of growth, still has the potential to generate more economic activity.** Some tradable industries in the county include “Other Animal Food Manufacturing” and “Animal (except Poultry) Slaughtering”. The advantage Union County offers is an attractive location close to the inputs they need and the demand for their products. It also provides a relatively good location for inputs like “Leather and Hide Tanning and Finishing” and meets the demand for “Machine Tool Manufacturing”.

County economic snapshot

Unpacking population and economic patterns

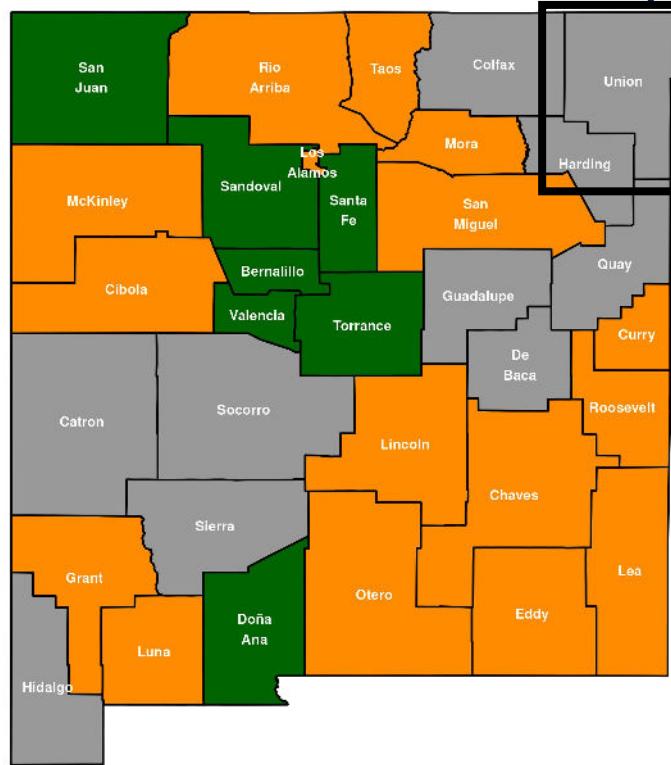
Union county location



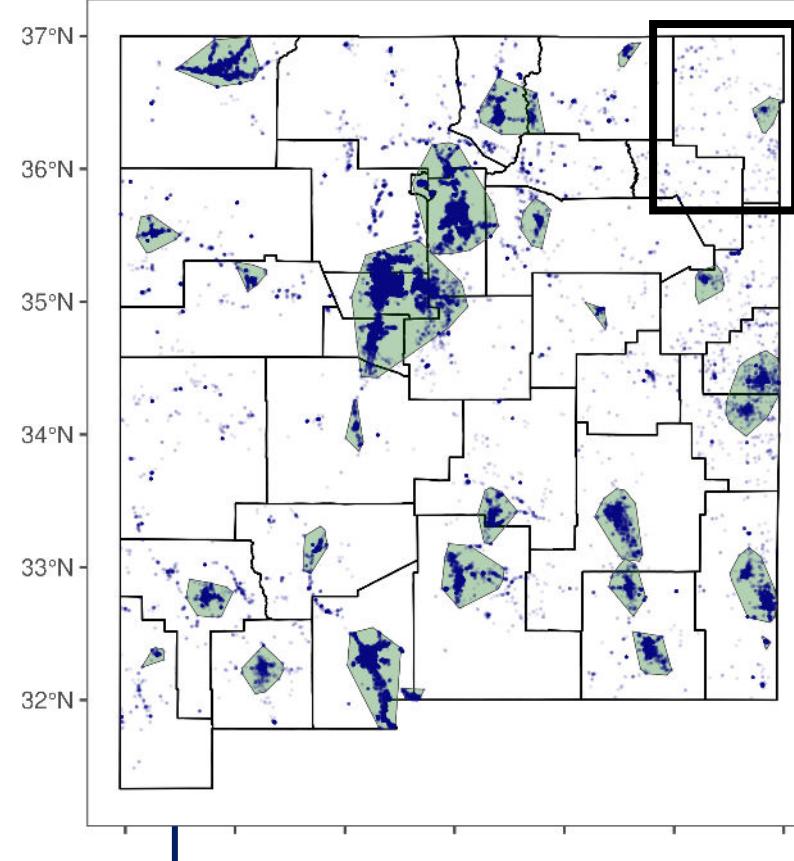
Note: Full map: <https://www.censusdots.com/race/new-mexico-demographics>

Economic cluster – Firms in Union county & New Mexico

Map of Counties and Statistical Areas in New Mexico



New Mexico Firms' Location



County Type Metropolitan Micropolitan Rural

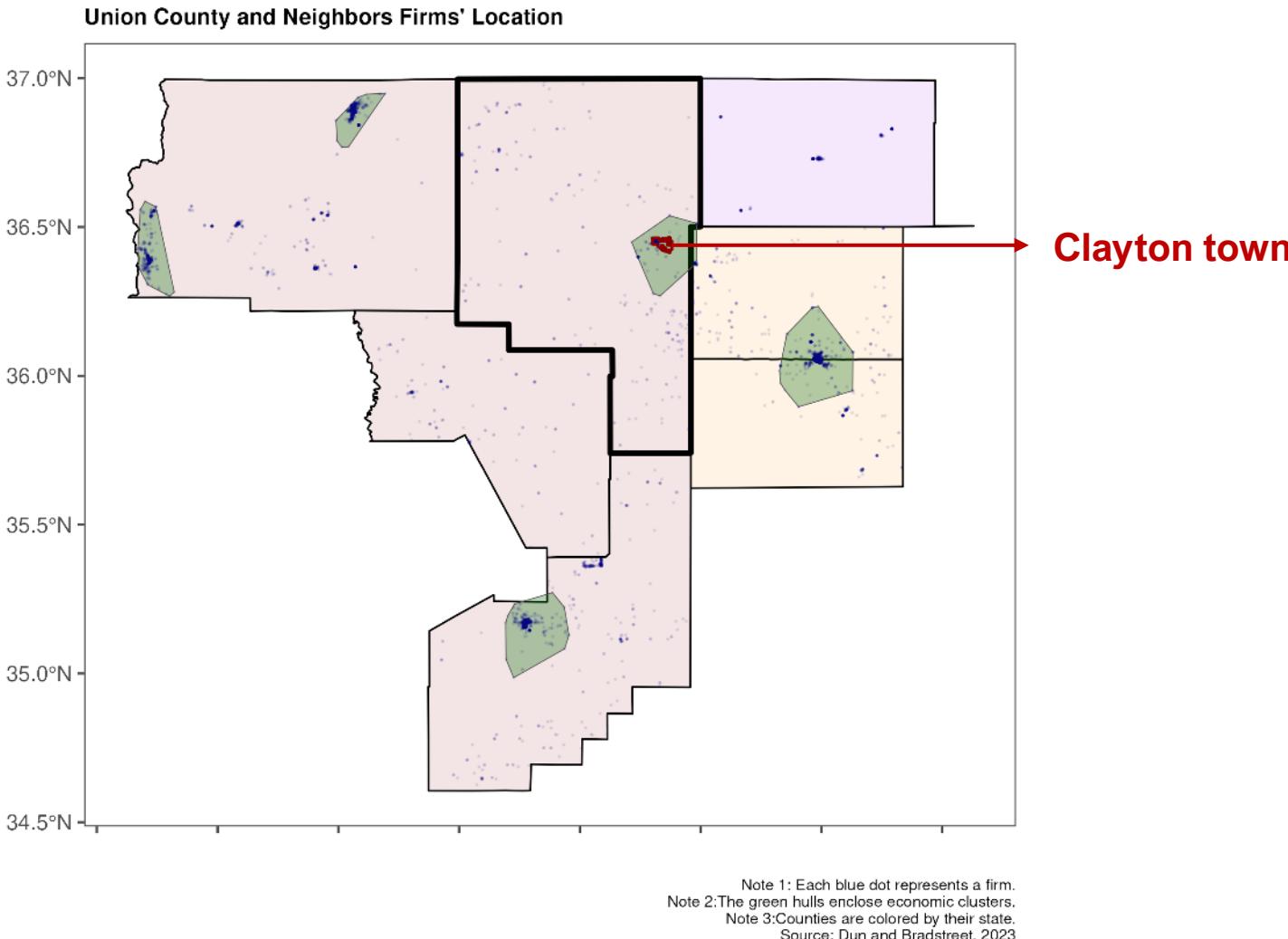
Source: U.S. Census Bureau

Note 1: Each blue dot represents a firm.
Note 2: The green hulls enclose economic clusters.
Source: Dun and Bradstreet, 2023

The county type definitions are based on the size of local population centers and their connection to larger urban areas. Metropolitan and micropolitan areas differ by the size of their core community, with a threshold of 50,000 residents. In contrast, rural areas do not have a population center with at least 10,000 residents.

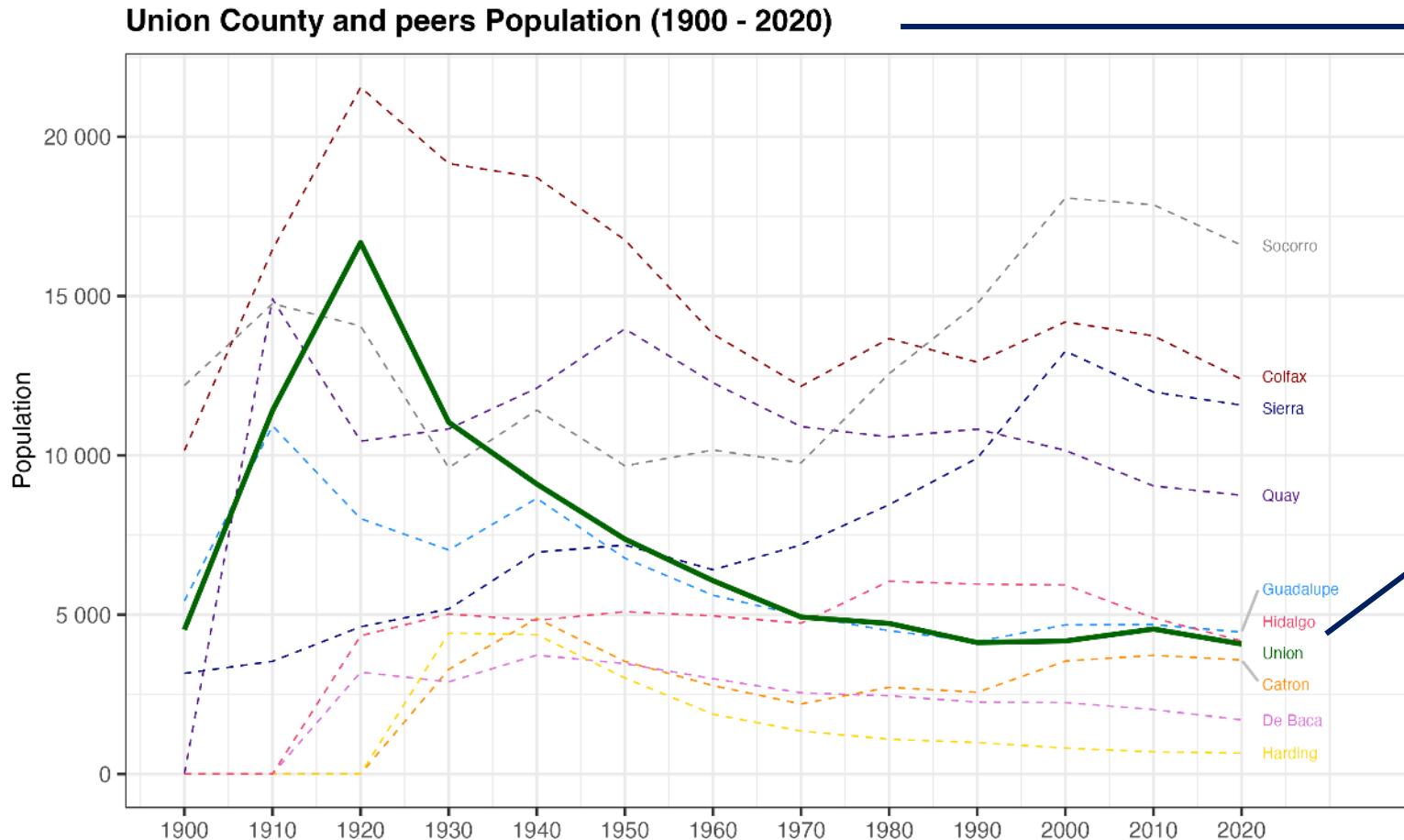
The clusters of economic activity (shown by the green outlines) are defined by the proximity of firms (blue dots). These clusters reveal connections between counties, both within the state and across state borders.

Economic cluster – Firms in Union county and adjacent counties



Union's economic cluster is situated near the state border with Oklahoma and Texas. However, it barely covers a small part of Dallam County (TX). The cluster is focused on the county's main town and extends slightly beyond its borders, staying within the county limits.

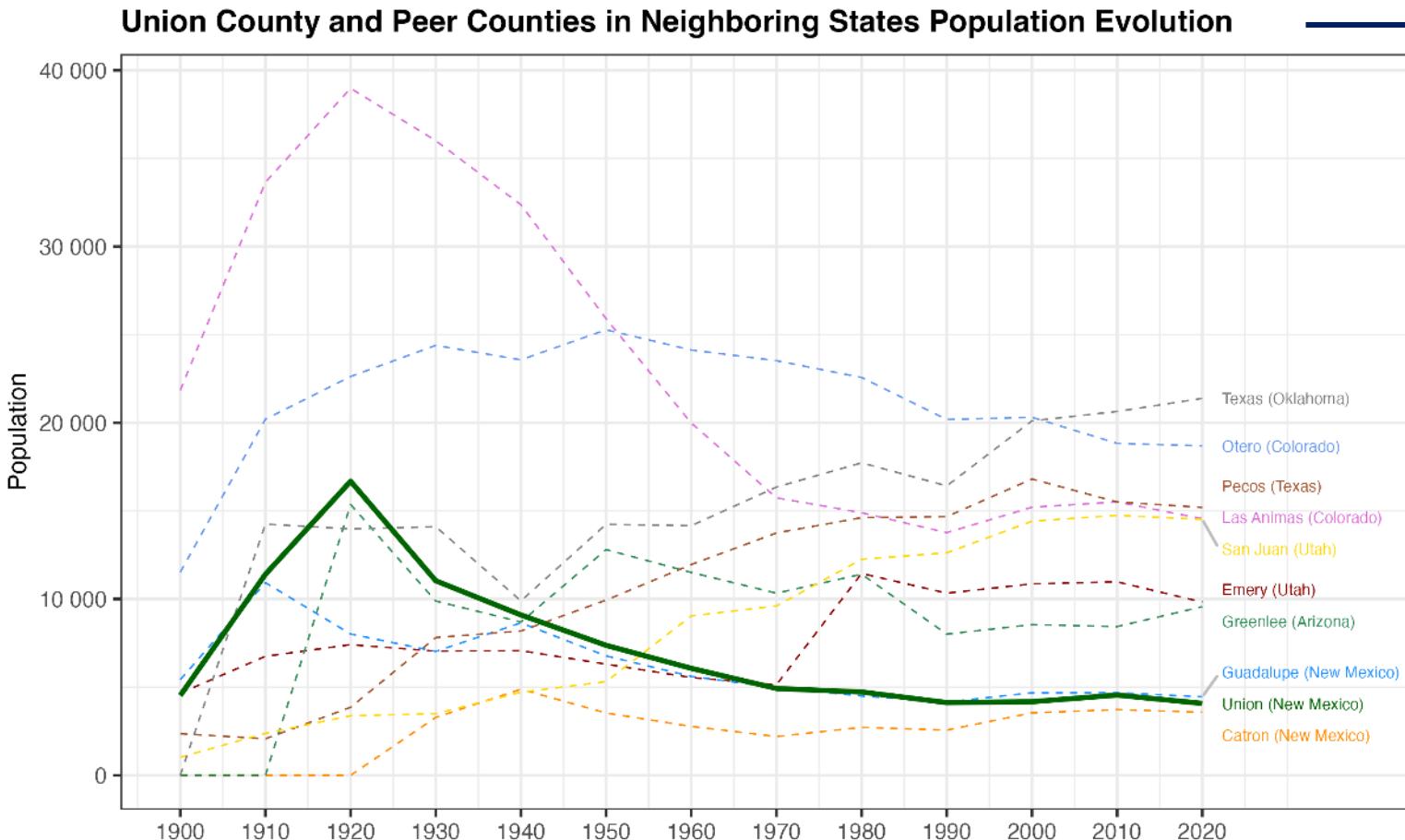
Long-term trajectory – Population growth among New Mexico's counties



Understanding Union's economy requires looking at the county's long-term evolution. Demographic and economic trends are closely connected: job opportunities attract people and drive population growth, while job losses can lead to outmigration. At the same time, the size and skills of population influences which new economic activities, as critical mass of knowhow and networks enable economic activity.

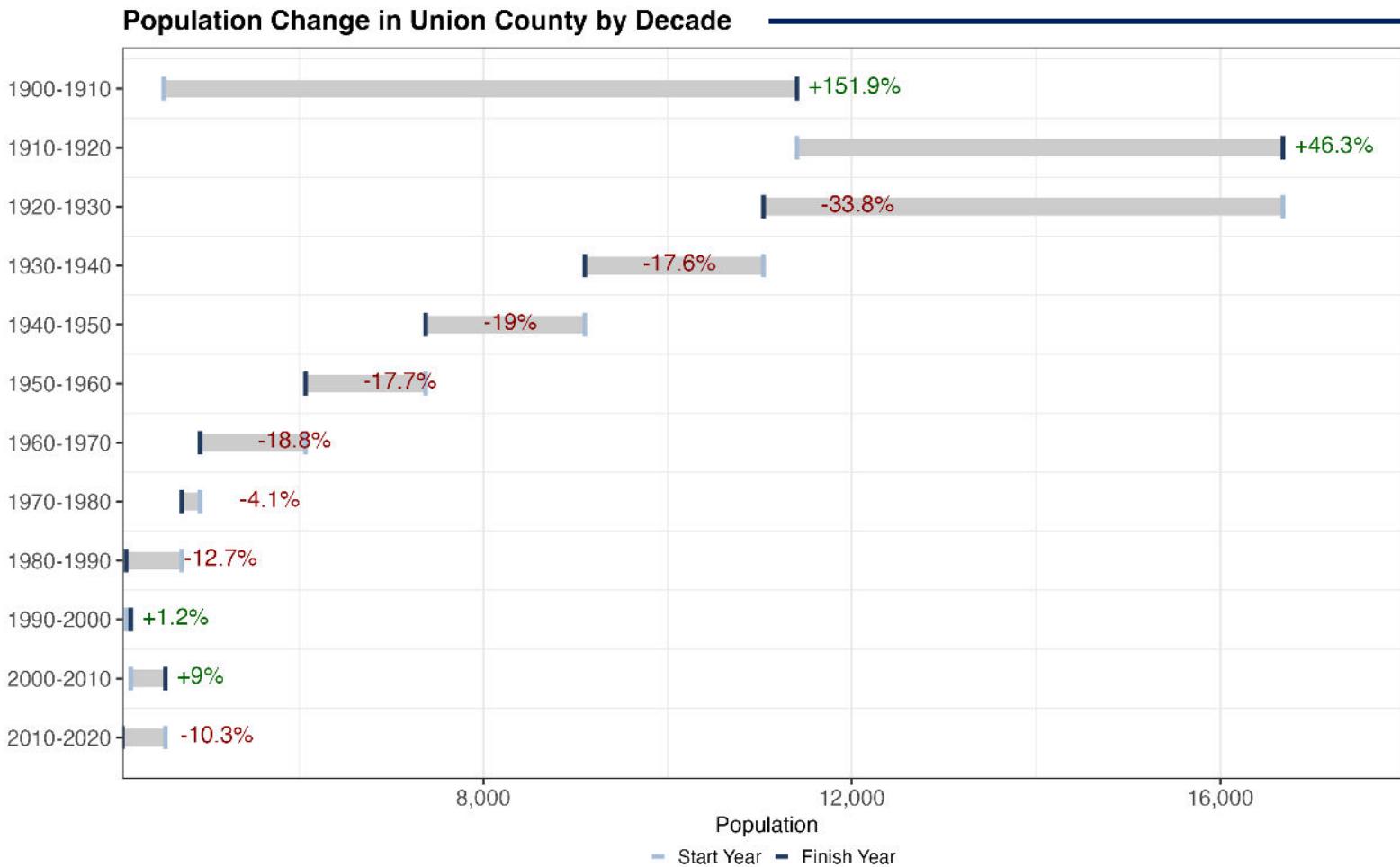
Union's long-term population growth is shown alongside that of other rural counties in New Mexico.

Long-term trajectory – Population growth among peers



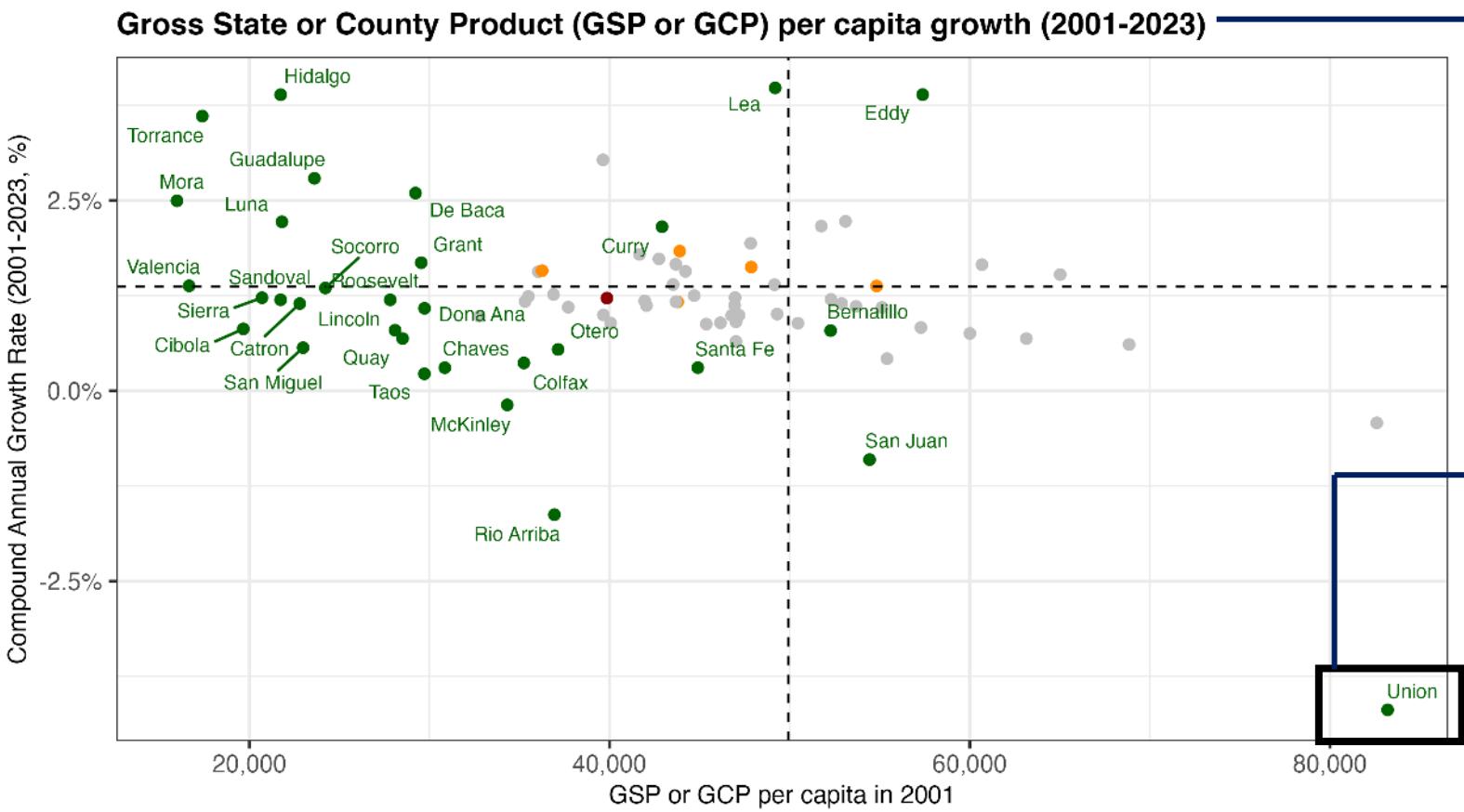
The previous slide compared Guadalupe's long-term population growth with that of other rural counties in New Mexico. To provide further context, the following analysis examines a set of rural peer counties across New Mexico and five neighboring states (Arizona, Colorado, Oklahoma, Texas, and Utah).

Long-term trajectory – Population growth by decade



Now, the focus shifts from comparing long-term trends to examining Union's population changes decade by decade. This graph shows the population at the start and end of each decade, as well as the total growth rate during each period.

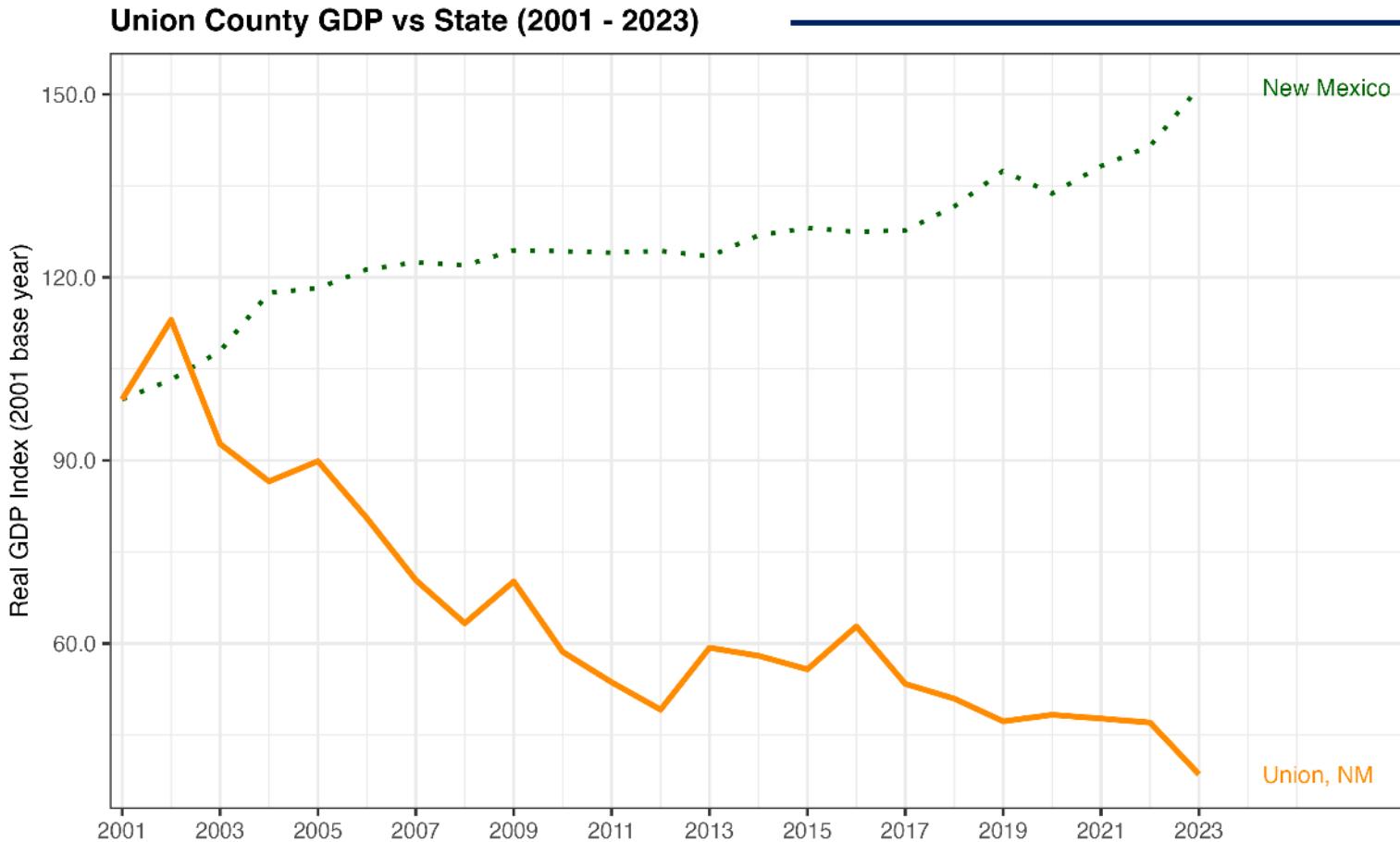
Recent economic performance – Income level growth



Demographic trends offer a long-term perspective on Union's economy. For a closer look at more recent decades, Gross County Product (GCP) provides annual data going back to 2001, capturing the value of economic activity produced within the county's borders. Dividing GCP by the local population gives a per capita figure, which serves as income level, a useful benchmark for comparing overall standards of living between places.

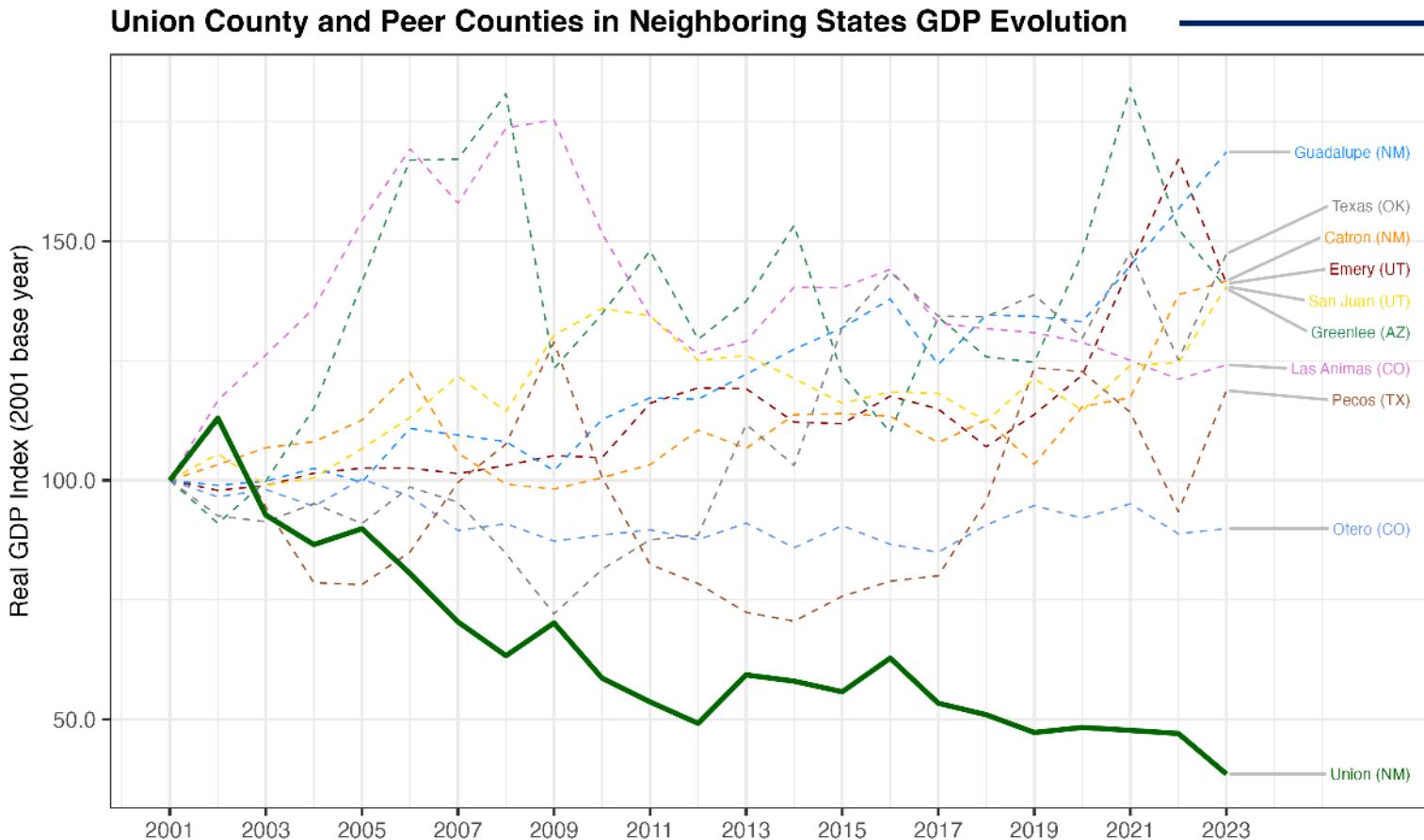
Union's average income growth rate is shown here alongside New Mexico's 32 other counties, the state average, and neighboring states.

Recent economic performance – Gross County Product



Shifting from per capita measures to total GCP levels gives a sense of the overall size of the local economy, based on everything produced within the county's borders. To make comparisons between places clearer, GCP is shown as an index using 2001 as the base year. This approach allows for easy tracking of economic trajectories across places of different sizes and helps highlight specific periods when significant changes or challenges occurred. Union's economic trajectory is shown alongside that of New Mexico as a whole.

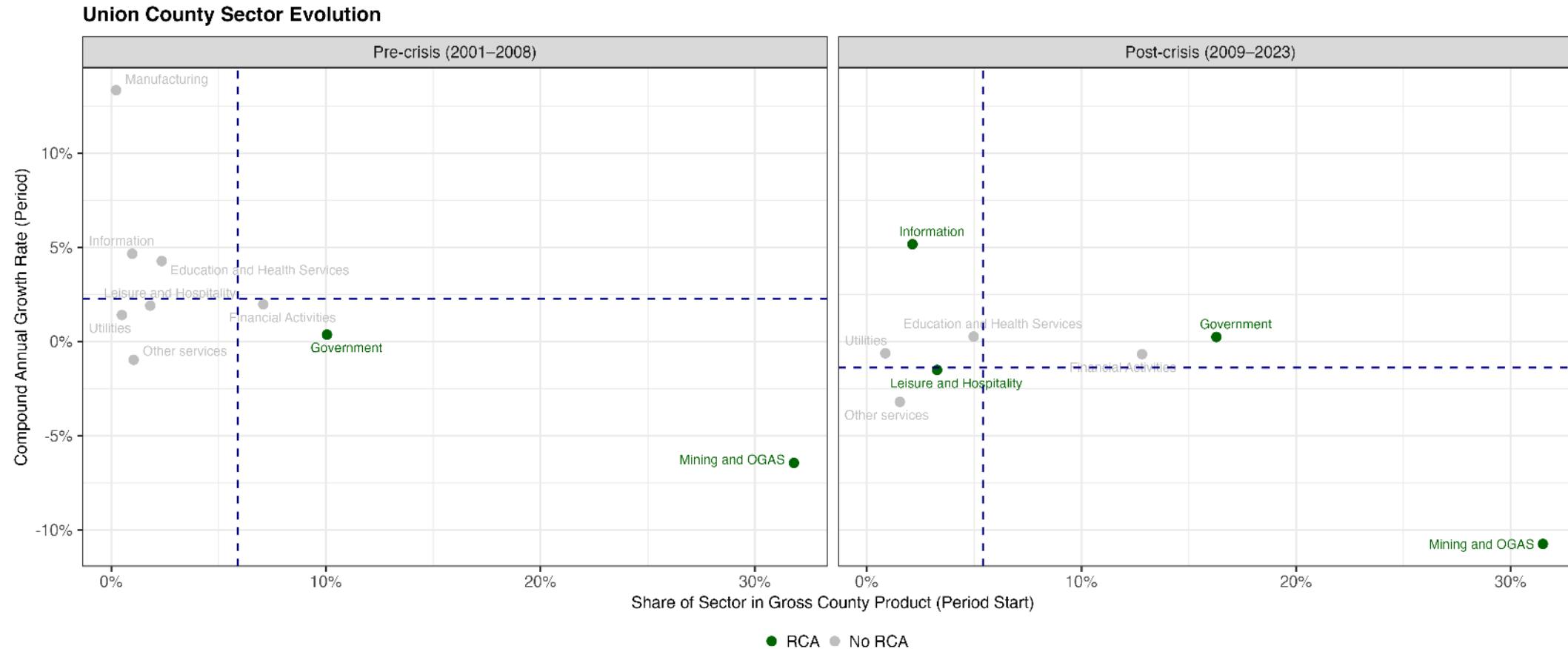
Recent economic performance – GCP trajectory relative to peers



This graph uses the same set of peer counties as in the population comparison but now focuses on economic trends. As with the previous comparison to the state, each county's GCP is indexed to 2001, making it easier to spot major changes and differences in trajectory over time. Union's GCP is shown alongside that of its peer counties.

Underlying economic engines

GCP can be broken down into the sectors that drive the local economy. The following graph does this by showing each sector's average growth rate and share of the economy before and after the financial crisis. Each dot is a sector; its position reflects both its average growth and its importance to the county's economy.



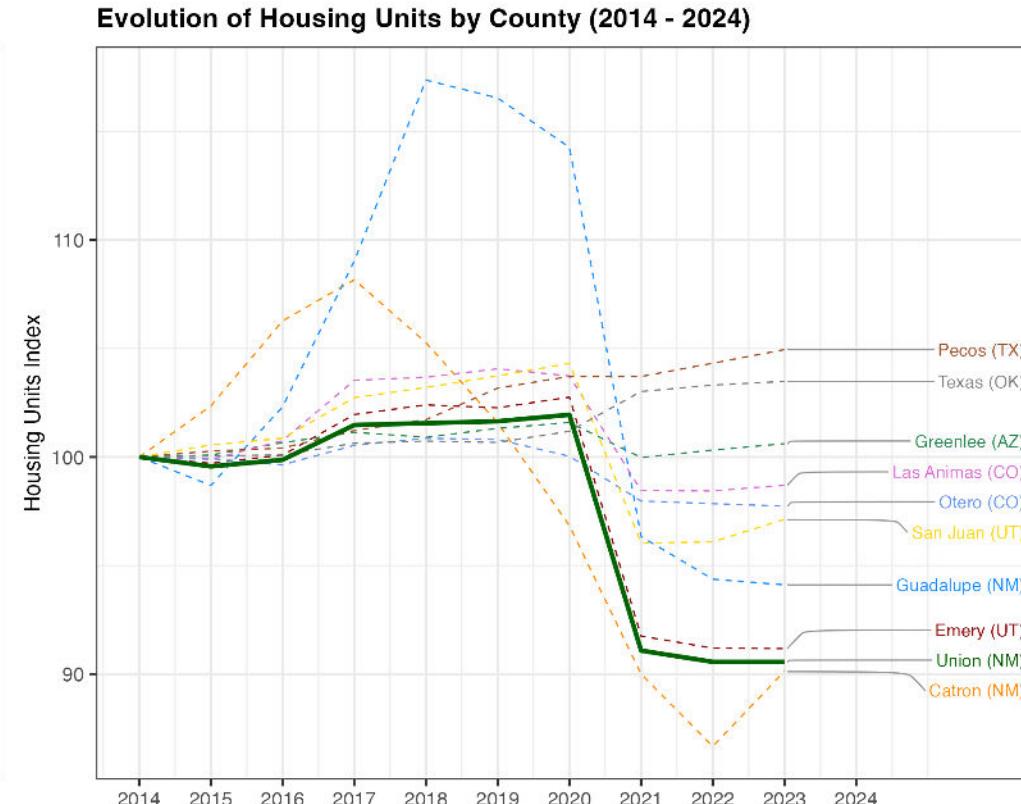
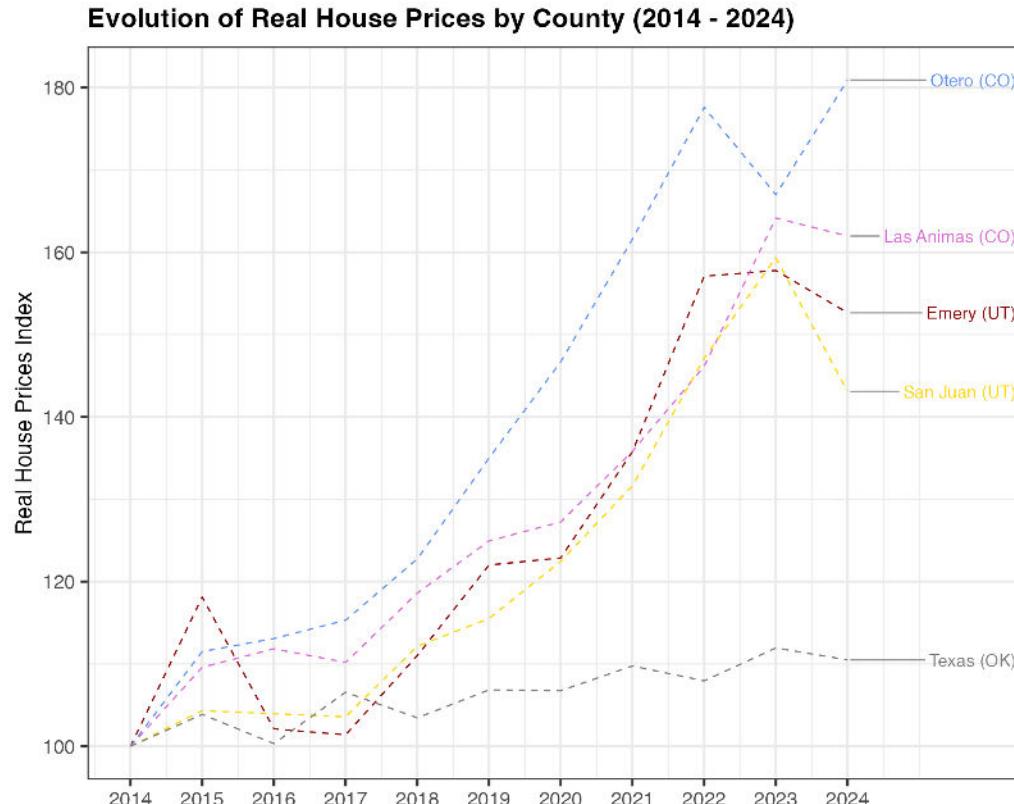
Source: Bureau of Economic Analysis (BEA)

Note: This RCA is comparing the county's share vs US to identify the distinctive sectors for the county.

Note 2: Some sectors are not included in both graphs due to data availability

Housing dynamics – local prices and housing supply

So far, the analysis has focused on economic activity as a driver of growth. However, as noted earlier, people are not only drawn by job opportunities, but also by the overall quality of life a place can offer. Factors such as amenities, public services, and housing availability all play a role in where people choose to live. While this analysis doesn't cover every factor, it offers some insight into a community's ability to attract and retain talent by examining trends in housing demand and supply. Unfortunately, some rural counties lack enough housing prices' data.



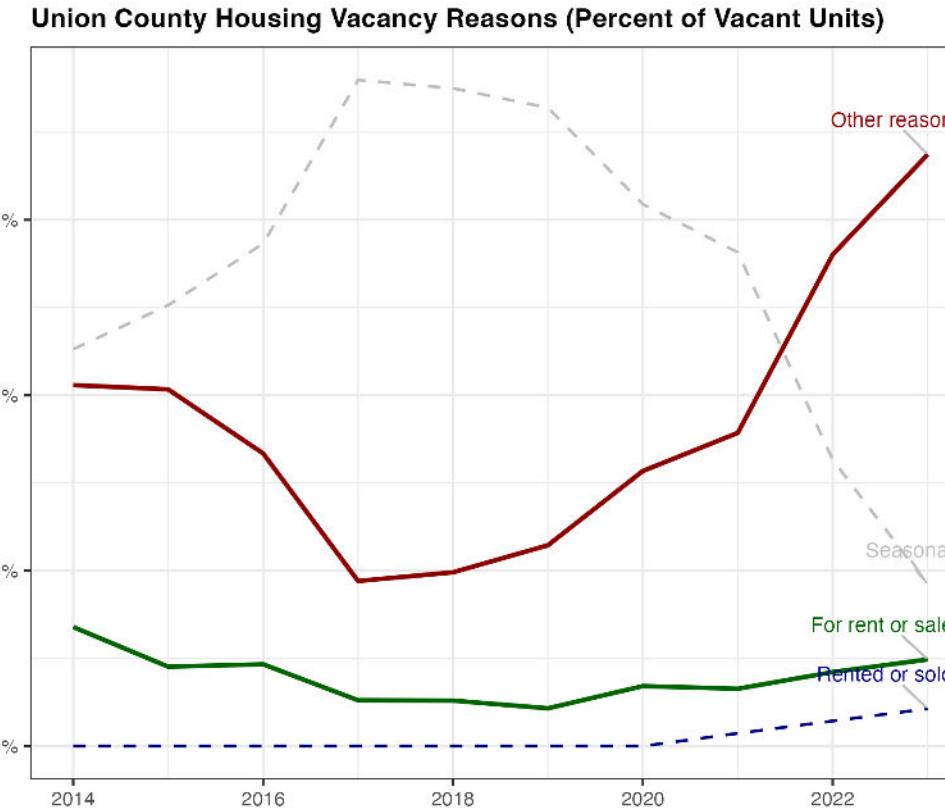
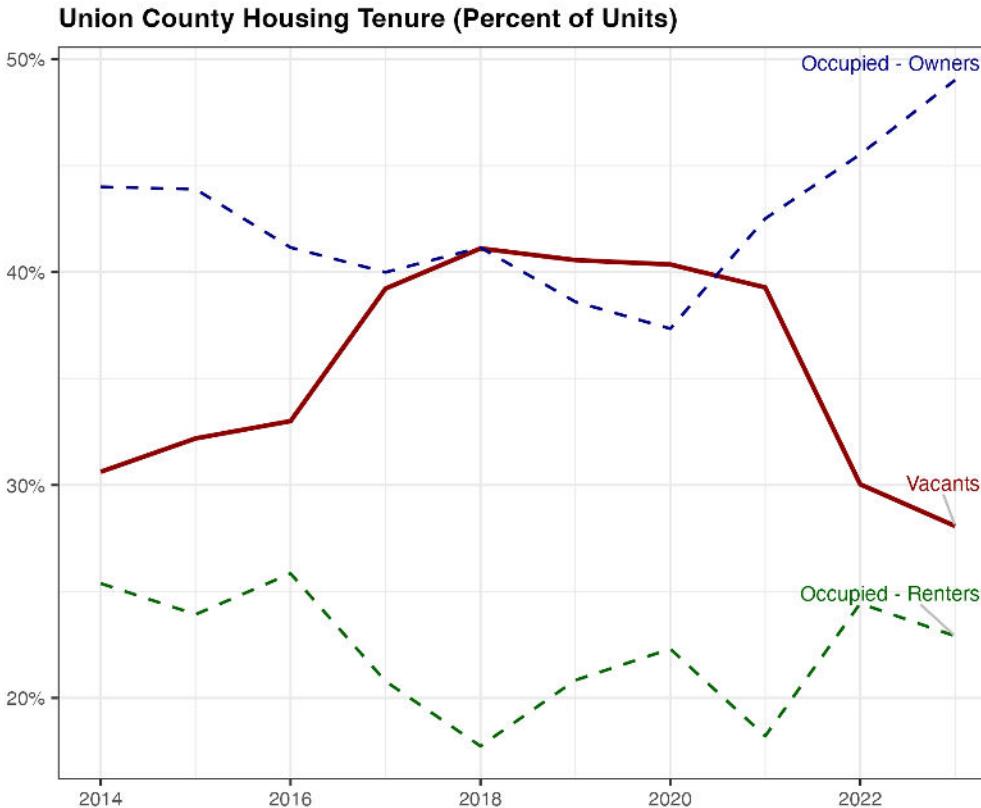
Housing dynamics – Breakdown of housing supply



The U.S. Census Bureau classifies the housing structure according to how many units it has: one, two, three and so on. This analysis uses four main categories: Single-family (only one unit), Multi-family (two or more units), Mobile homes and Boat/RV or other types of housing.

Housing dynamics – Tenure and vacancy

Housing units can be occupied by either owners or renters, while some remain vacant for various reasons. Some vacant units are already taken and are awaiting new residents, while others are actively on the market for rent, for sale, or available seasonally. The most concerning are those listed as vacant for “Other” or unclear reasons.



Diversification opportunities

Which industries are better positioned to fuel Union County's economy?

Overview of the selection of promising industries

- **Background.** The prior section, “County Economic Snapshot,” provided a preliminary diagnosis of the county’s current situation by examining main population and economic trends. This analysis helps clarify whether the county faces greater challenges in fostering economic activity or in attracting and retaining workers for future growth. Regardless of these constraints, every community can benefit from identifying which industries are best positioned to bring new jobs.
- **Complement to local knowledge.** While local stakeholders often have valuable insights into which industries could thrive, the sheer number of possible options, over 1,000 industries at the 6-digit NAICS level, means there is room to complement local knowledge with data-driven observations, including some that may not be immediately obvious as a local fit.
- **Selection.** From the whole universe of potential industries, the analysis first identifies the industries the country is already good at and, second, other industries that require similar capabilities to these. Finally, it focuses in on which of these are tradable industries. Within tradable industries that align with the region’s existing capabilities, there are two key groups. “Already Competitive” industries have a strong local presence and serve as current economic strengths. “Potential Opportunities” are industries that are either smaller or not yet established locally, but whose growth requirements closely match the local economy’s current mix of know-how, skills, infrastructure, and other inputs (productive capabilities). These industries may offer pathways for future job creation and diversification.
- **Building blocks.** These groupings are based on an approximation of the local productive capabilities (knowhow, skills, infrastructure and other inputs) and how well these match the needs of different industries. By examining both the mix of existing industries and their broader relationships, the analysis highlights which industries the local economy is best equipped to support, either by reinforcing established strengths or by fostering new sources of job growth.

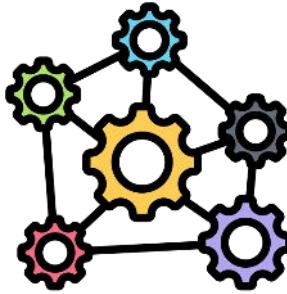
Our analysis is built on three cornerstones

Local Capabilities



What is Union good at?
Revealed Comparative Advantage (RCA) or Location Quotient (LQ) as key metric

Industries Relatedness



How interconnected are industries with one another and with Union's capabilities?
Proximity and Density as key metrics

Tradable Income



Which industries can bring external income to Union?
Tradable or base industries that export goods and services

Our analysis is built on three cornerstones

Local Capabilities



What is Union good at?
Revealed Comparative Advantage
(RCA) or Location Quotient (LQ) as key metric

Industries Relatedness

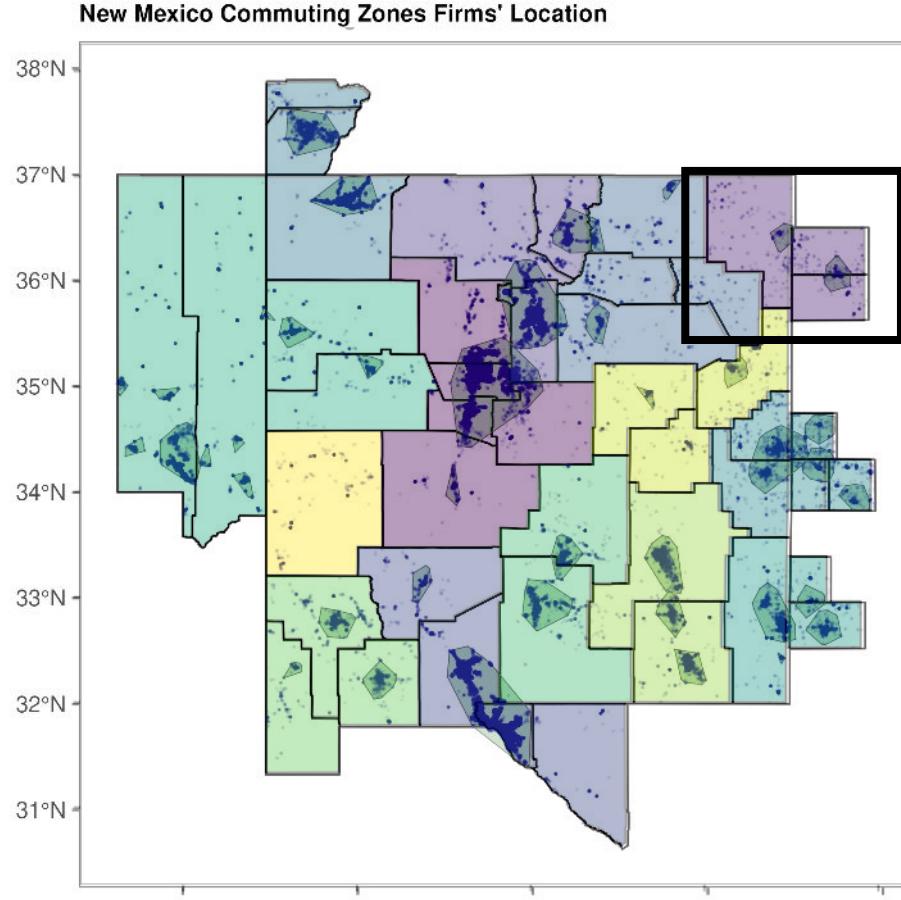


Tradable Income



What is considered “local”? Beyond administrative borders

► *We think of the local economy as a commuting zone (CZ).*



Workers often commute beyond the administrative boundaries of towns and cities. To capture this, the USDA defines commuting zones across the country, grouping areas based on where residents travel for work.

Union's commuting zone, highlighted by the black square on the left map, includes Dallam and Hartley counties (TX).

The analysis in this document focuses on Union's commuting zone (CZ), so references to Union refer to its CZ

Which are Union capabilities? Looking for signals

▶ *Productive capabilities could be collective knowhow, skills, infrastructure and other inputs. We cannot observe all, but the current economic activity gives us a hint of which industries they can support.*

Key metric:

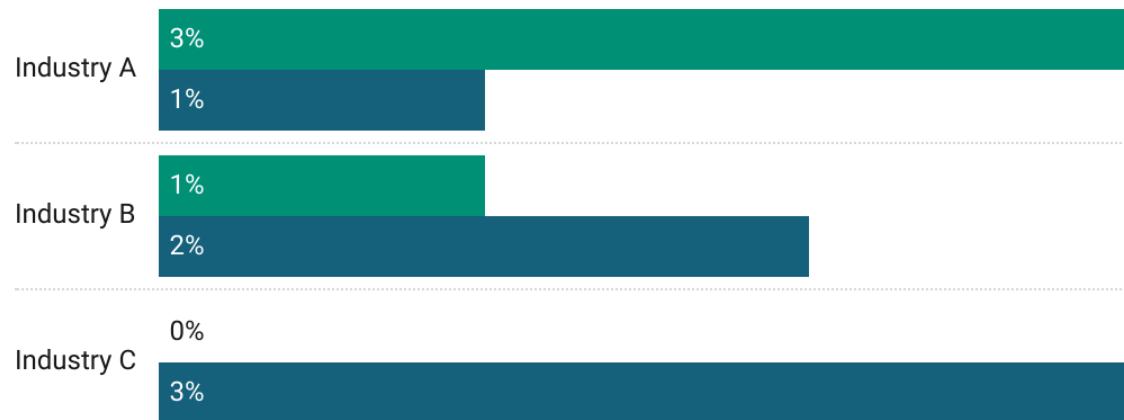
$$RCA = \frac{\% \text{ of CZ Jobs in industry } i}{\% \text{ of US Jobs in industry } i}$$



By comparing an industry's presence in the CZ relative to its presence nationally, it tells us what is Union good at.

For example:

County share U.S Share



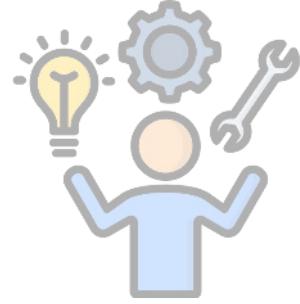
RCA = 3 (RCA > 1, Competitive edge). The CZ has the capabilities to excel in this industry.

RCA = 0.5 (RCA < 1, Not competitive). The CZ has some capabilities to participate in the industry

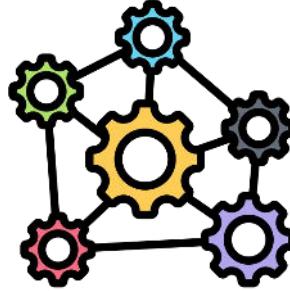
RCA = 0 (No presence). The industry is not currently active, but it could be developed in the future

Our analysis is built on three cornerstones

Local Capabilities



Industries Relatedness



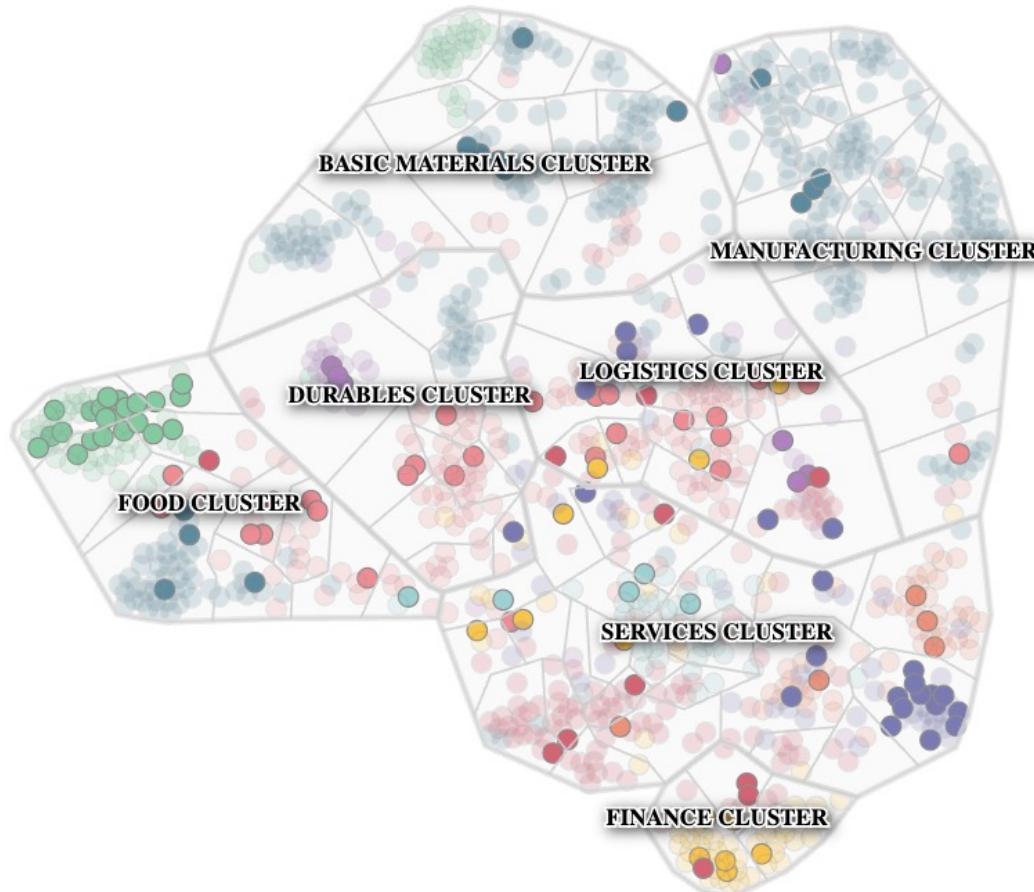
*How interconnected are industries
with one another and with
Union's capabilities?*
Proximity and Density as key metrics

Tradable Income



What else could Union capabilities support? Let's start by looking at the relationships between industries

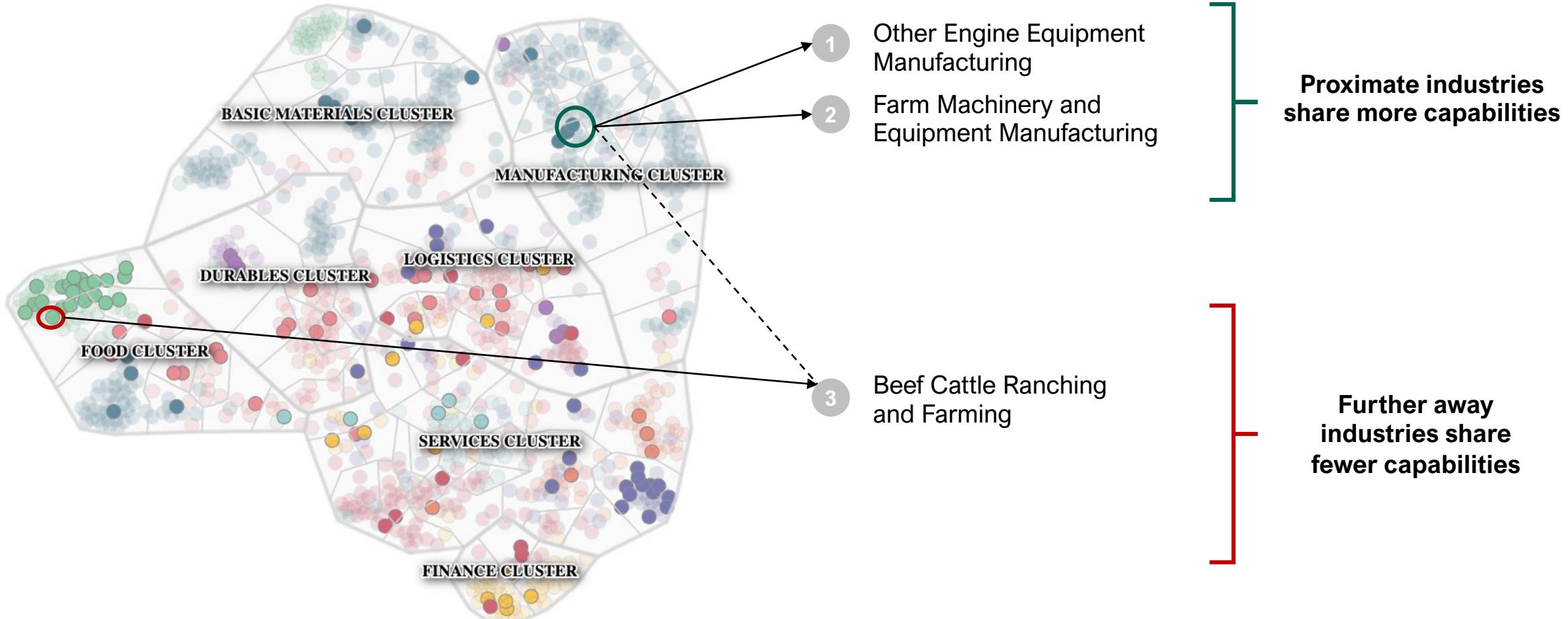
➤ *The industry space is the visual representation of the relatedness between all the existing industries.*



- Each dot represents an industry.
- Each color represents an economic sector
- Each area outlined in grey represents a cluster of economic activity. In each, industries from different economic sectors require similar capabilities.
- The stronger colored dots are industries with a significant presence in Union County commuting zone relative to the rest of the US ($RCA > 1$).

Which industries are more alike? It's all about their position

▶ **Proximity tells us how similar two industries are.**



Source: Dun & Bradstreet

Note: All the industries with an RCA equal or above 1

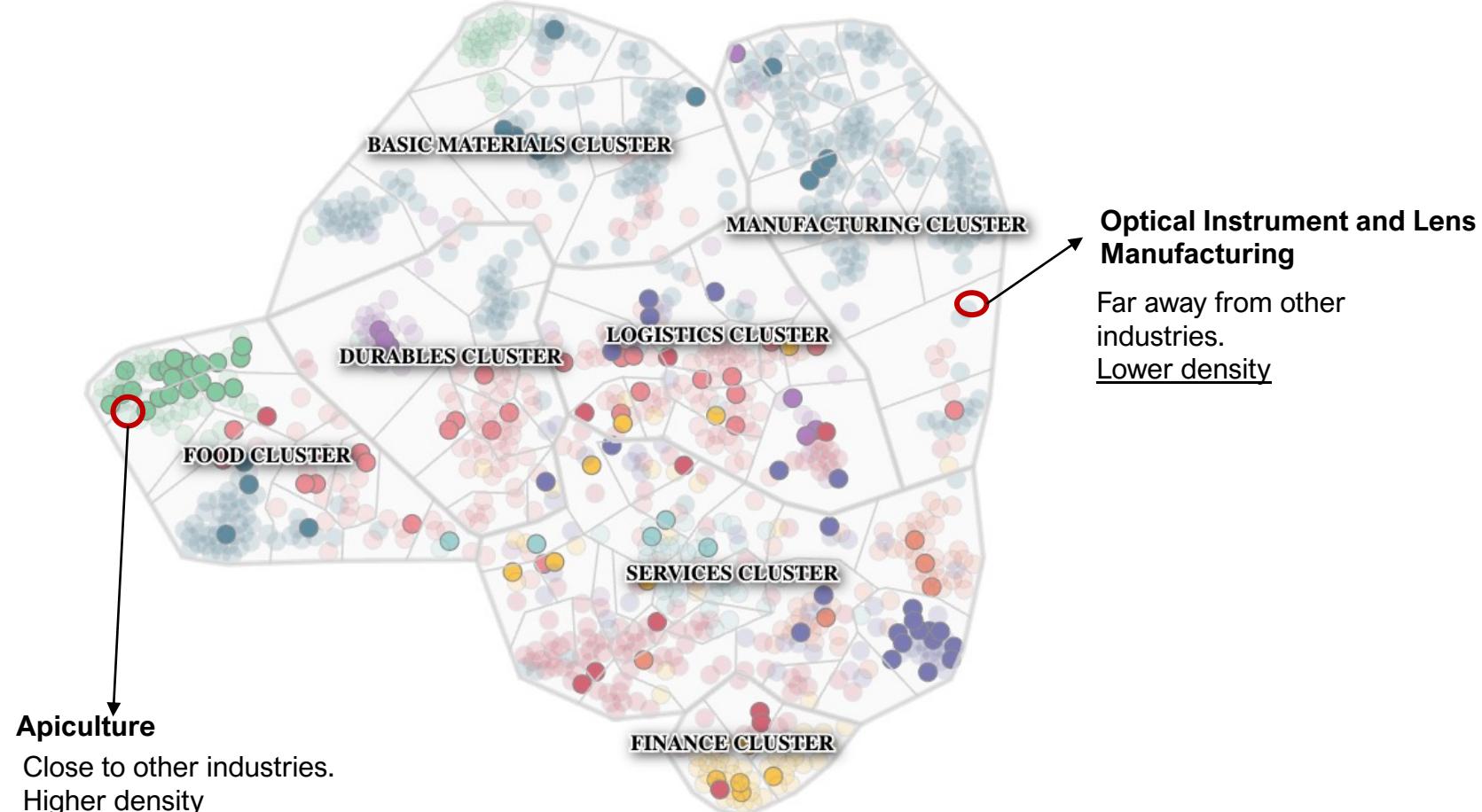
What industries require similar capabilities as those found at Union?

Depends on their proximity to current industries

► *Density considers the connections between an industry and the CZ's current economic activity. It provides a notion of which other industries the productive capabilities could support.*

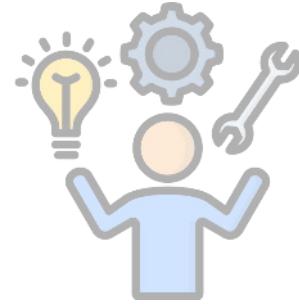
When thinking about new industries, development will be easier if the industry is located in a part of the industry space where

Union already has significant economic activity and strong capabilities. Regions typically grow by developing these



Our analysis is built on three cornerstones

Local Capabilities



Industries Relatedness



Tradable Income

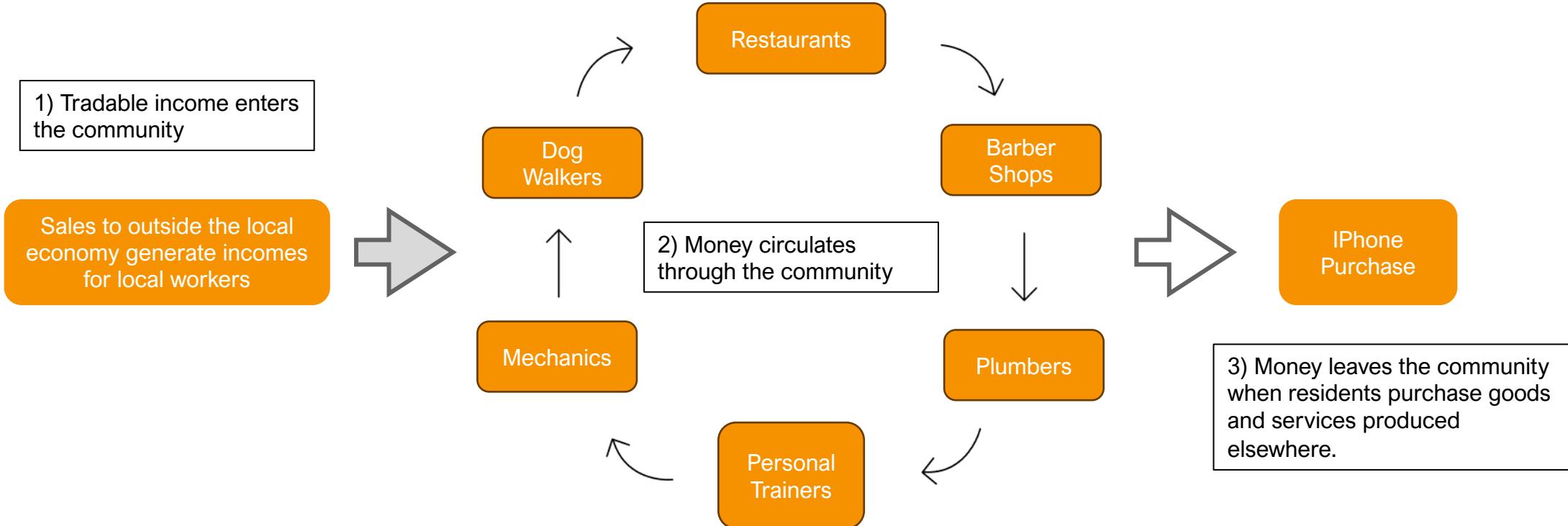


Which industries can bring external income to Union?

Tradable or base industries that export goods and services

What are the industries that could bring external income to Union? The relevance of tradable income

➤ **Tradable income is jargon for money generated from stuff that a local economy sells beyond its borders. It is essential for economic survival as it allows to purchase goods and services that are not produced locally and creates local jobs.**



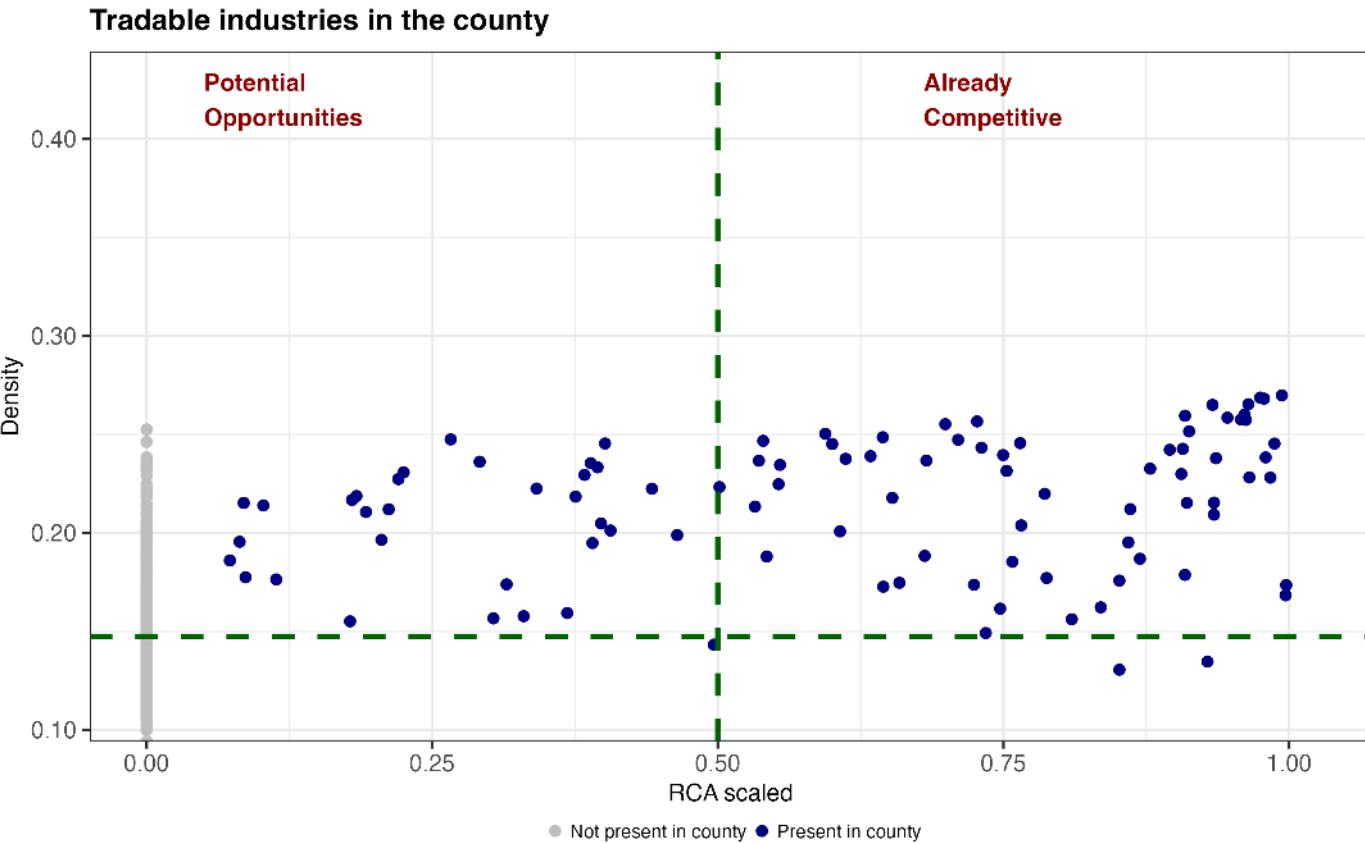
There are 1012 industries (6-digit NAICS 2022 code). Using County Business Pattern (CBP) dataset from Eckert et al. (2021), Growth Lab research has determined that 52% of them are tradable.

What are the opportunities in the tradable sector? RCA and Density as criteria

Remember:

- 1 **RCA.** What is Union good at?
- 2 **Density.** How close is an industry to the Union's existing capabilities?

Defining the groups. The first threshold for group definitions is set at $RCA = 1$ (or 0.5 on the scaled horizontal axis), separating industries with relatively larger and smaller local presence. The second threshold uses the median density among all tradable industries to identify those most similar to the local productive capabilities. The focus is on industries above the median density, as they are more closely aligned with existing capabilities.



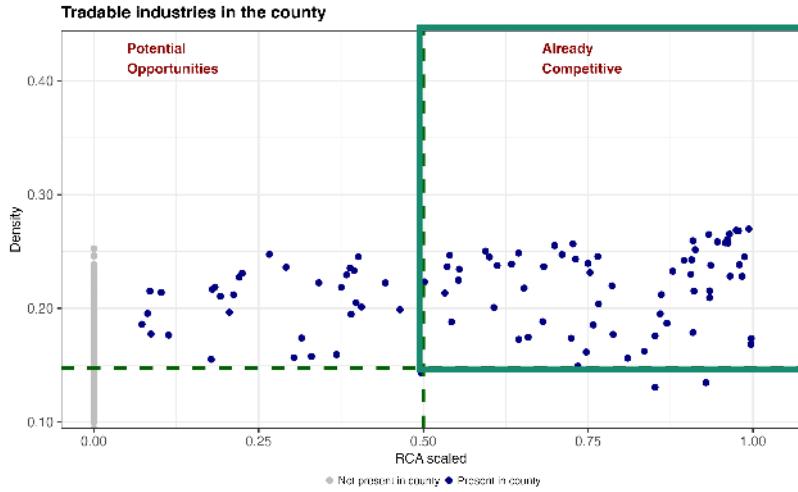
Source: Dun & Bradstreet

Note about RCA scaled formula: $RCA \text{ scaled} = \frac{RCA}{RCA+1}$. $RCA=1$ is represented as 0.50 in the horizontal axis

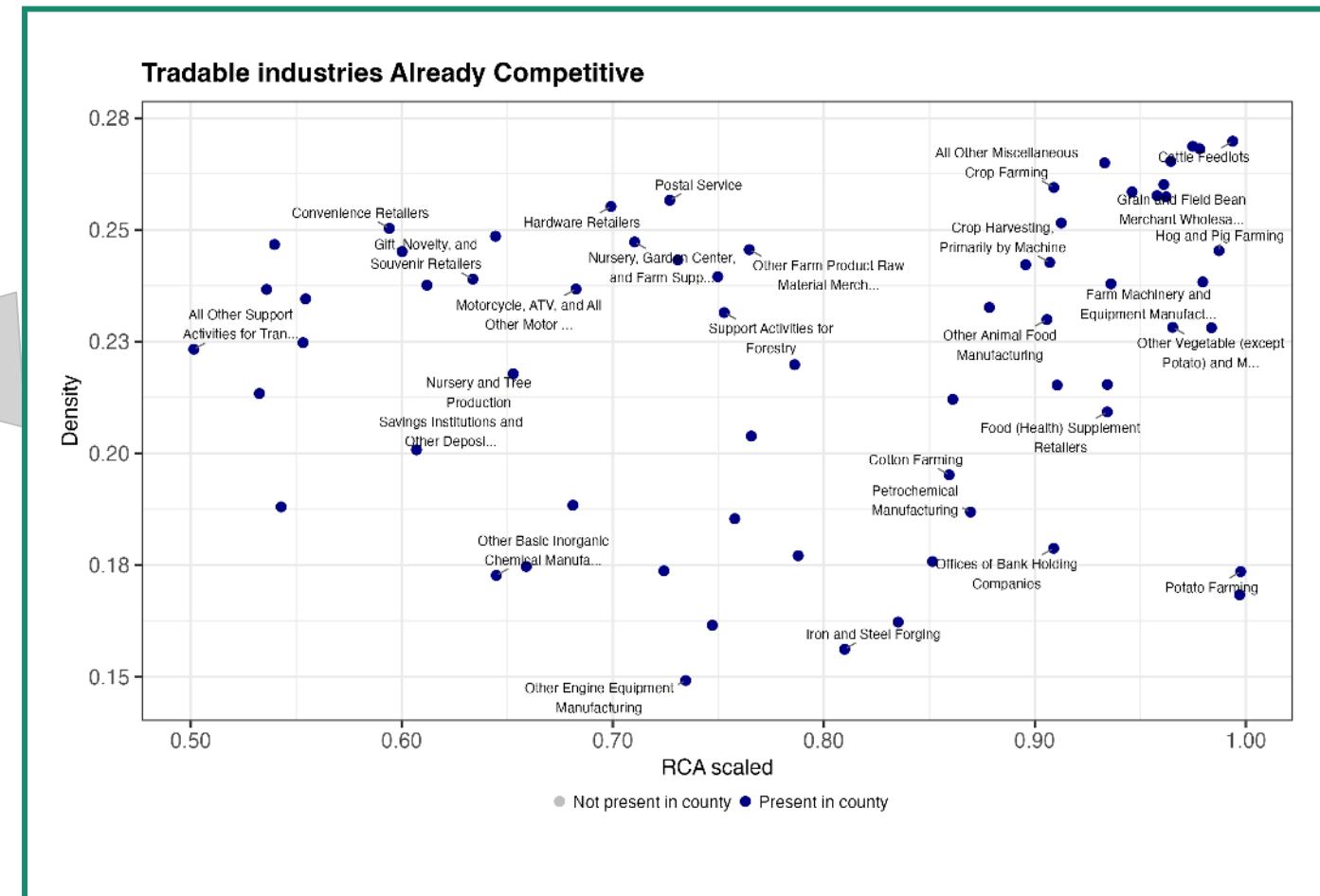
How to start exploring promising industries

- **Wide set of possibilities.** The analysis highlights over 200 potential industries for growth (either by supporting industries already established locally or by creating conditions for new ones with potential to thrive). Ultimately, choosing which industries to pursue depends on local priorities, assets, and experience. The following slides and the attached dataset offer multiple ways to explore these opportunities. There is not a unique way of using these resources.
- **First pass.** If you're unsure where to begin, start by reviewing the visuals that display all opportunities by category (Manufacturing, Trade, Services, and Natural Resources) to get a sense of the landscape. Alternate between the visuals and the dataset, and make note of any industries that immediately catch your attention for further exploration. The dataset provides several variables for each industry, but at this stage, simply flag those that seem particularly relevant or interesting for your context. You can later assess which of these options are most practical or realistic based on the specific conditions required for development.
- **Exercise caution with opportunities that feel off.** Promising industries are identified based on their similarity to the local economy's capabilities, but a perfect fit is uncommon: some capabilities (skills, infrastructure, or inputs) may still be missing, especially for new or emerging sectors. The next step is to identify and assess these gaps with input from local firms and industry partners. In some cases, missing capabilities (like climate conditions for "Cotton Ginning") or unfavorable market conditions (as with "Support Activities for Coal Mining") mean the opportunity isn't realistic or practical. It is recommended to set aside options that clearly do not fit local conditions and instead focus on opportunities that align better with community strengths and potential.

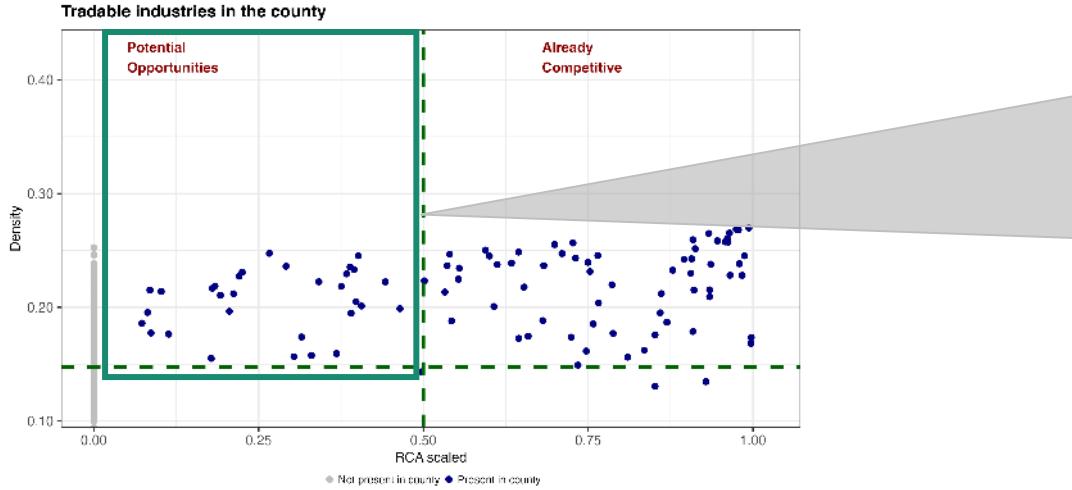
Already competitive industries in Union's commuting zone



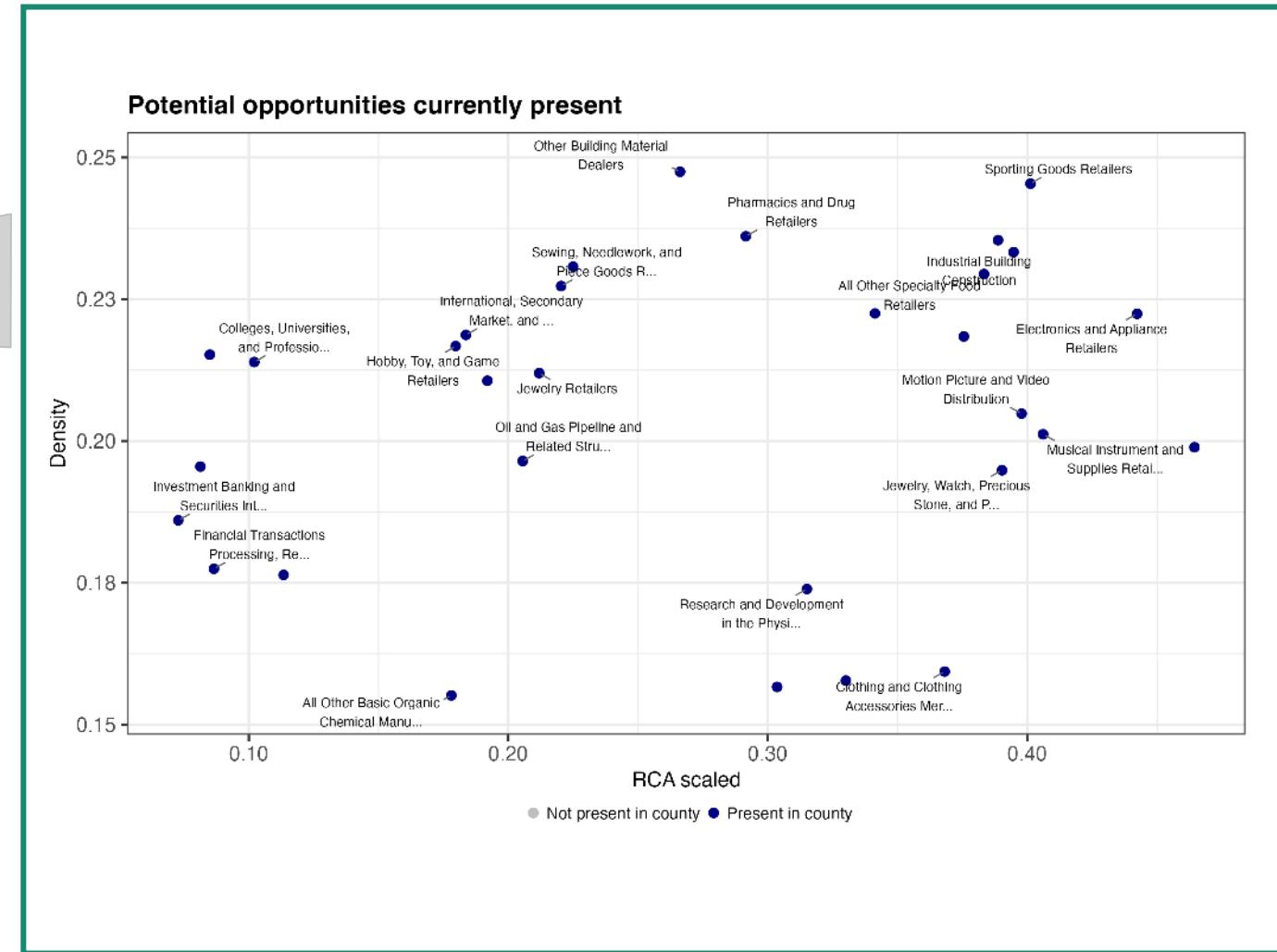
Industries in the top-right quadrant already have a strong foothold in Union (RCA > 1 or RCA scaled > 0.5). A development strategy could focus on creating the right conditions – such as infrastructure, skilled workforce, and supportive policies – to help them grow and thrive even further.



Potential opportunities currently present in the county

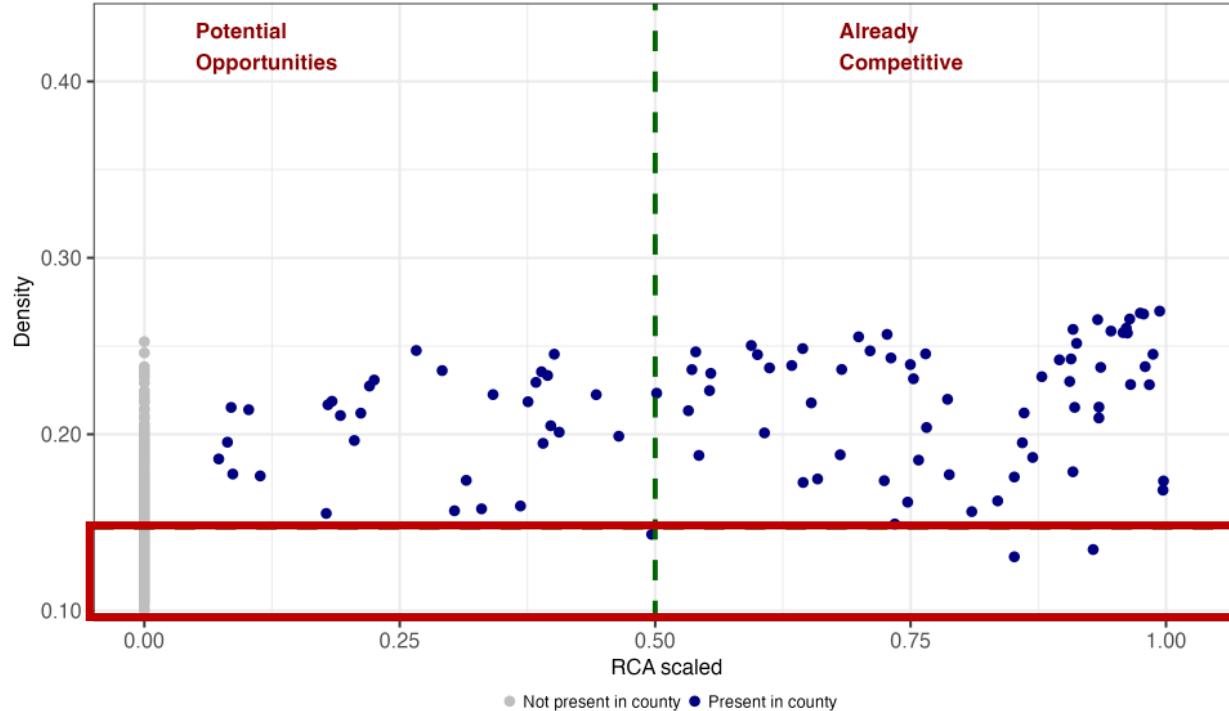


Industries in the top-left quadrant are particularly relevant for the county's development strategy because they already have some presence and are closely related to existing capabilities. In other words, they hold significant potential for growth. A development strategy could focus on creating the right conditions to help these industries flourish.



Industries further away from Union's capabilities

Tradable industries in the county



The analysis does not focus on this set of industries because their requirements are not closely aligned with Union's current capabilities. Industries with little local presence are unlikely to take root, while those with a larger footprint but a weak fit are more likely to shrink or eventually leave the community.

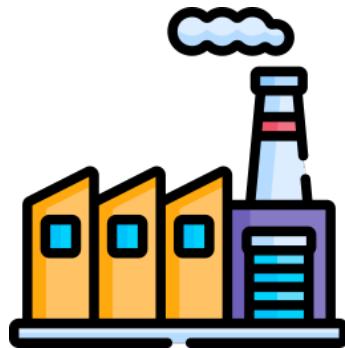
We identify 199 industries with potential opportunities.

Four major categories.



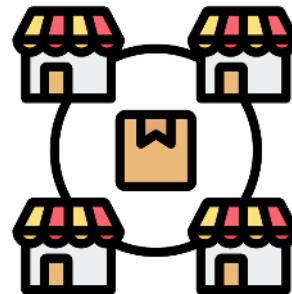
Several industries in Union offer emerging and new promising opportunities for increased tradable income. While these industries are not yet as competitive in Union as in other parts of the U.S., they share capabilities with industries that are already strong locally. This means they could expand relatively easily if the right conditions are in place.

Manufacturing



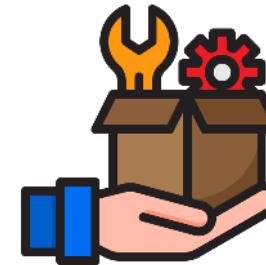
90 industries as potential opportunities

Trade



39 industries in retail and wholesale

Services



39 industries across different sectors

Natural Resources



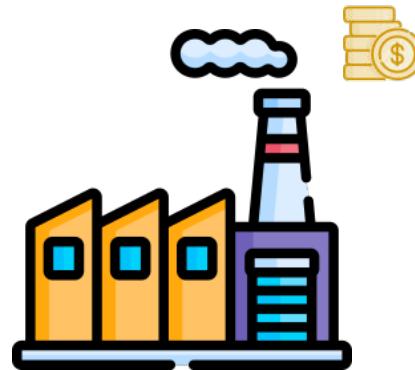
40 industries in Agriculture and mining

Potential opportunities with high and medium level wages. 145 industries across categories



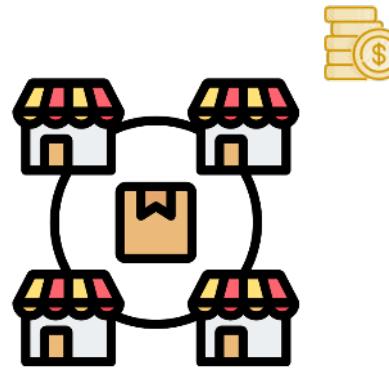
Industries are grouped by wage levels using U.S. averages: the top 25% are classified as high-wage, the bottom 25% as low-wage, and the rest as medium-wage. The analysis focuses on high- and medium-wage industries, as these are more likely to provide quality jobs and stronger economic benefits for the community.

Manufacturing



85 industries as potential opportunities

Trade



10 industries in retail and wholesale

Services



32 industries across different sectors

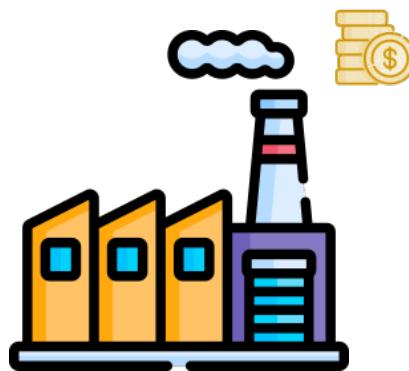
Natural Resources



18 industries in Agriculture and mining

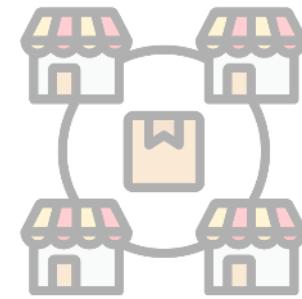
Potential opportunities with high and medium level wages. 145 industries across categories

Manufacturing

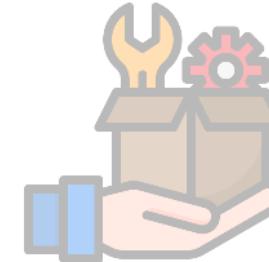


85 industries as potential opportunities

Trade



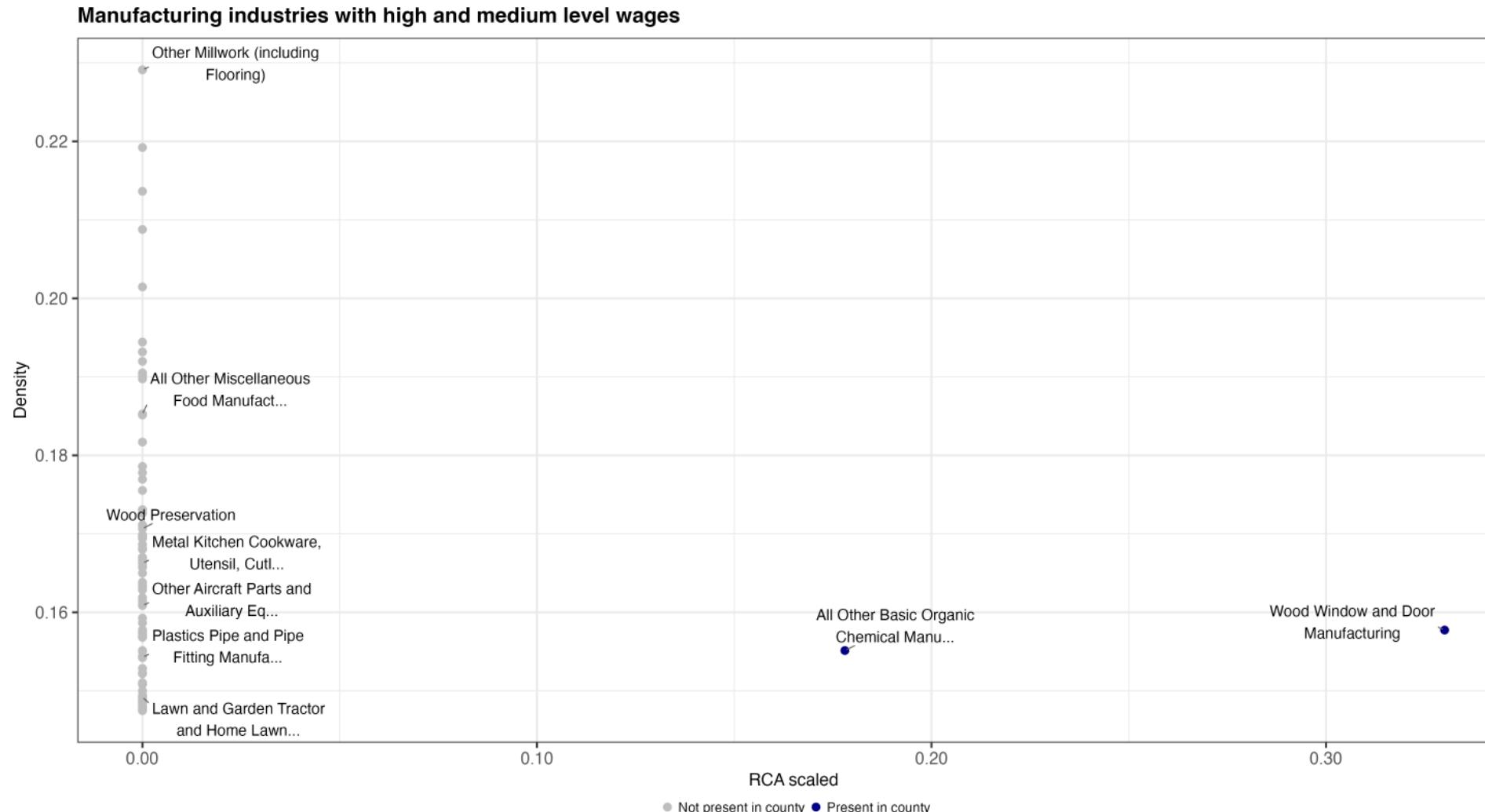
Services



Natural Resources



High and medium wages opportunities. 85 manufacturing industries

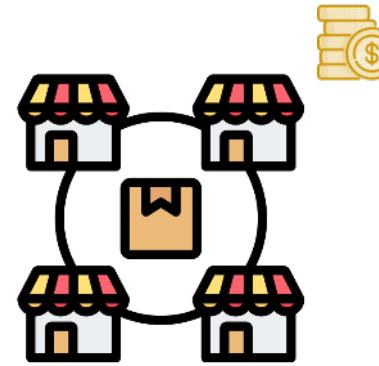


Potential opportunities with high and medium level wages. 145 industries across categories

Manufacturing

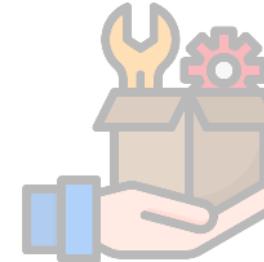


Trade



10 industries in retail and wholesale

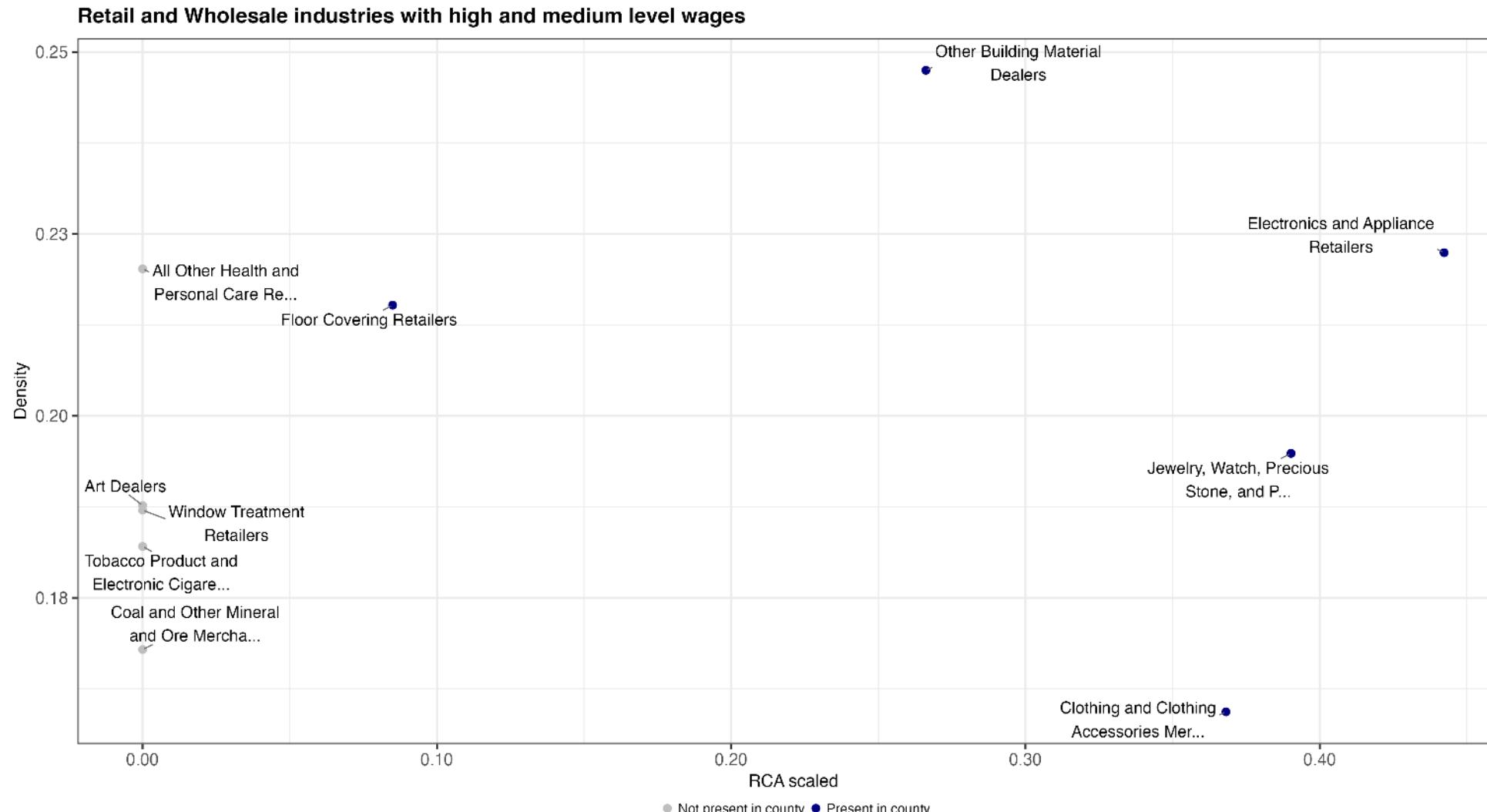
Services



Natural Resources



High and medium wages opportunities. 10 retail and wholesale trade industries



Main sources: Bureau of Economic Analysis (BEA) and Dun & Bradstreet.

Potential opportunities with high and medium level wages. 145 industries across categories

Manufacturing



Trade



Services

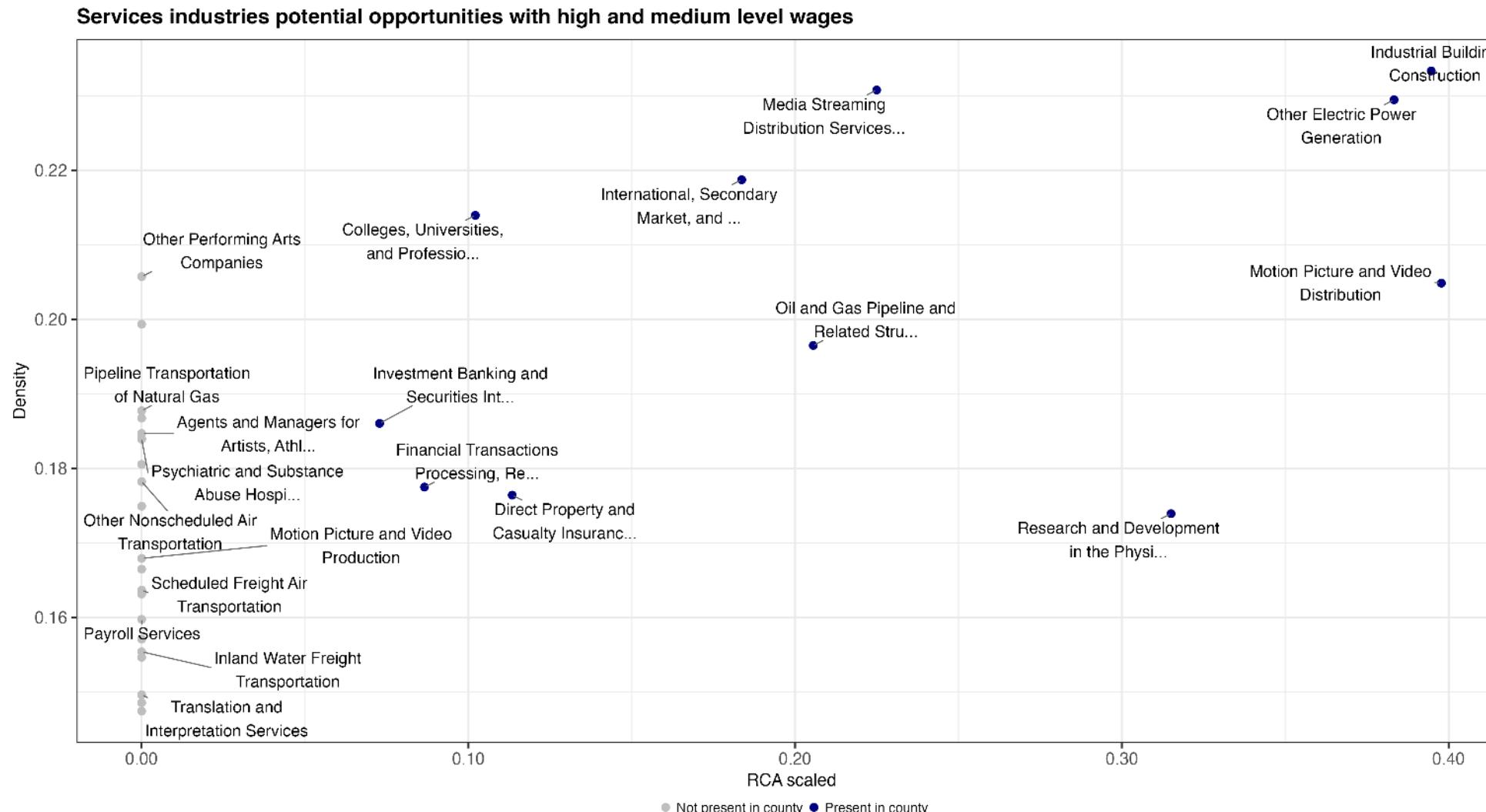


*32 industries across
different sectors*

Natural Resources



High and medium wages opportunities. 32 services industries

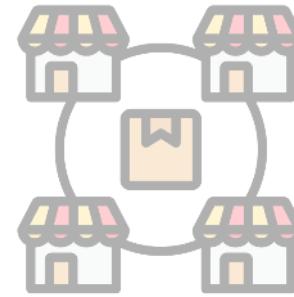


Potential opportunities with high and medium level wages. 145 industries across categories

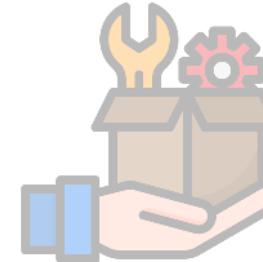
Manufacturing



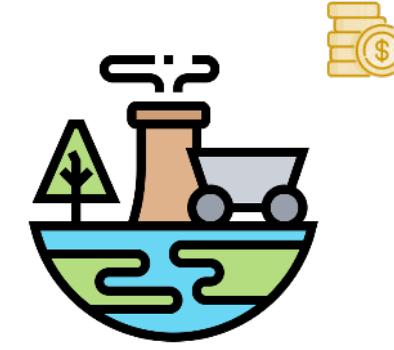
Trade



Services

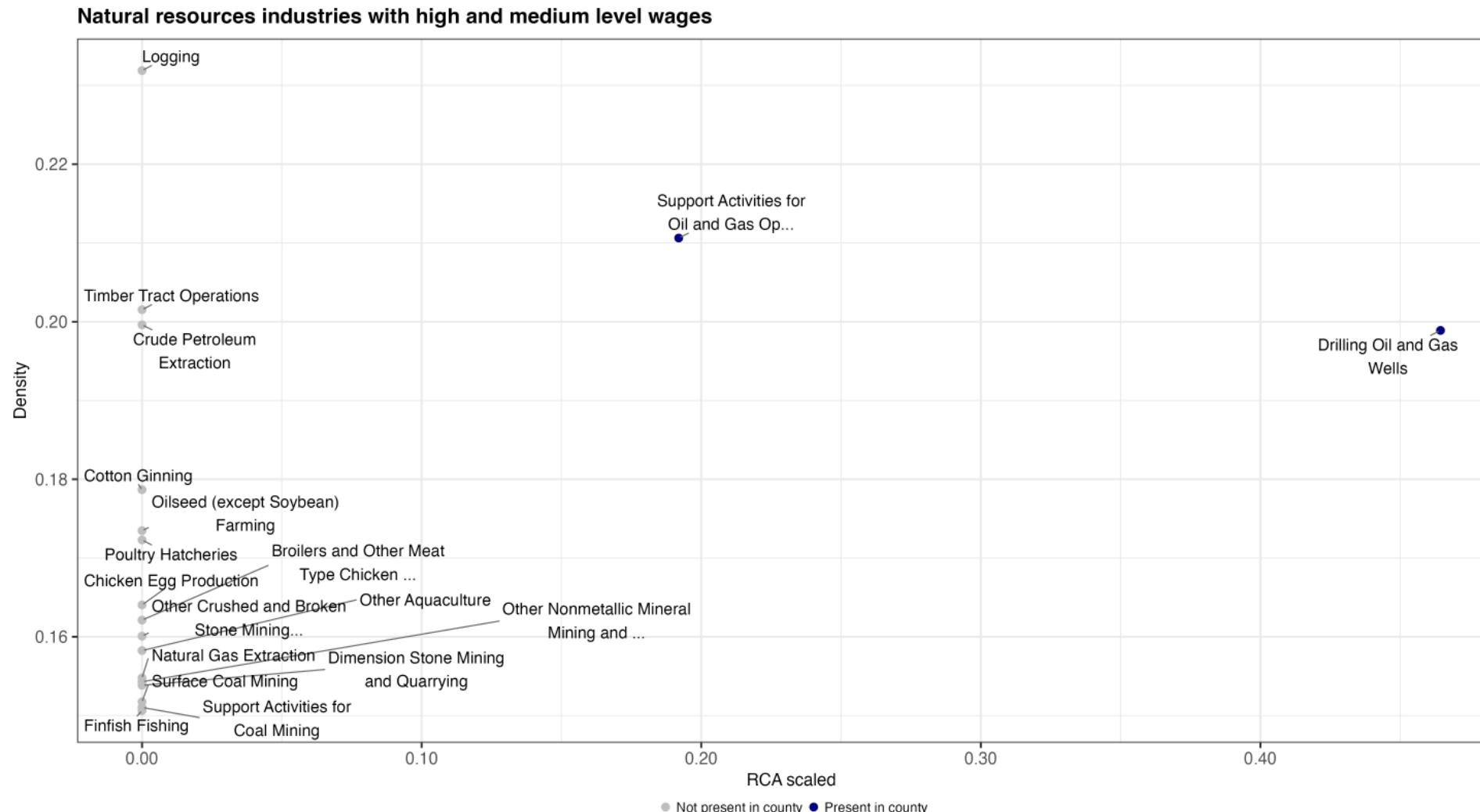


Natural Resources



*18 industries in
Agriculture and mining*

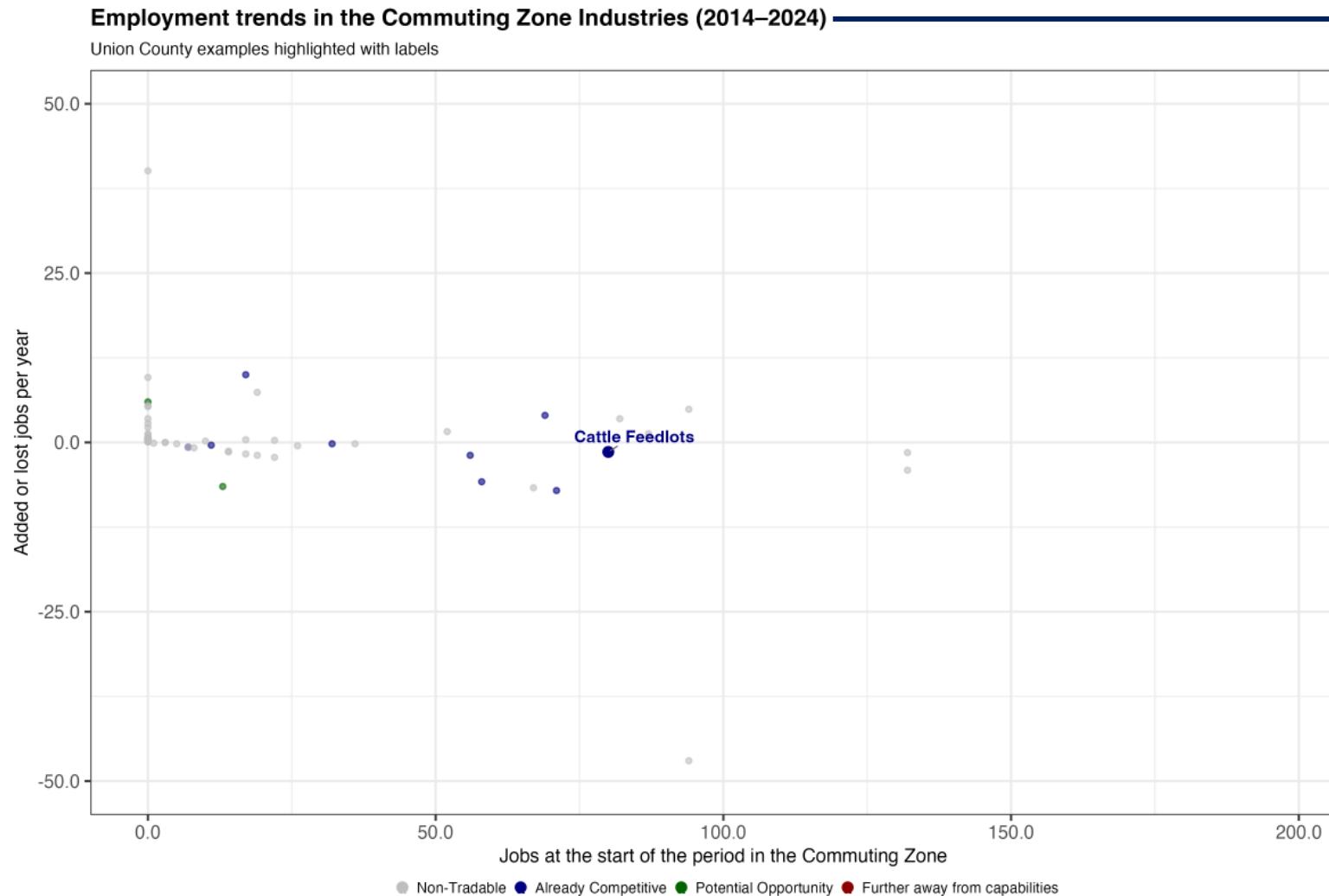
High and medium wages opportunities. 18 extractive industries



How to further assess the selected options

- **Background.** After selecting a list of industries that feel particular relevant or attractive, the next step is to figure out which are the missing capabilities and what can be done, if anything, to provide them.
- **Dataset as a reference.** The dataset provides useful information about potential gaps in productive capabilities, such as electricity needs or supply chain positioning, but it is not meant to offer all the answers. Instead, it serves as a starting point for further questions and discussions among local stakeholders. For instance, while the data show which industries have added or lost jobs in recent years, understanding the underlying reasons requires local and industry insights.
- **Examples as guidance rather than prescription.** External analysis cannot replace local insight or dictate which industries to target. The following slides highlight selected industries and explore various dimensions of each, not to prescribe priorities, but to demonstrate how to use the dataset's variables to prompt questions and guide decision-making. The examples focus on "Potential Opportunities" with medium or high wages that already have some local presence. The industries are drawn from sectors highlighted in the previous section, and Manufacturing because this sector offers additional variables to consider.
- **Review process.** The examples start by comparing job trends at the local, regional, and state levels to provide an overview of growing industries and to prompt consideration of the factors enabling or hindering growth. For some industries, job data may not be available. In these cases, reaching out, perhaps with help from the local Economic Development Organization (EDO), to firms already active in the industry can offer valuable qualitative insight. The examples then explore additional variables that assess industry attractiveness and specific requirements.
- **Build your own story.** Apply this approach to other industries of interest by examining all available variables in whatever order makes the most sense for your context. Engage local partners early and often to provide further insight and complement the analysis. The aim is to use this process to spark productive questions, identify the most promising opportunities, and guide actionable next steps for supporting industry growth in the community.

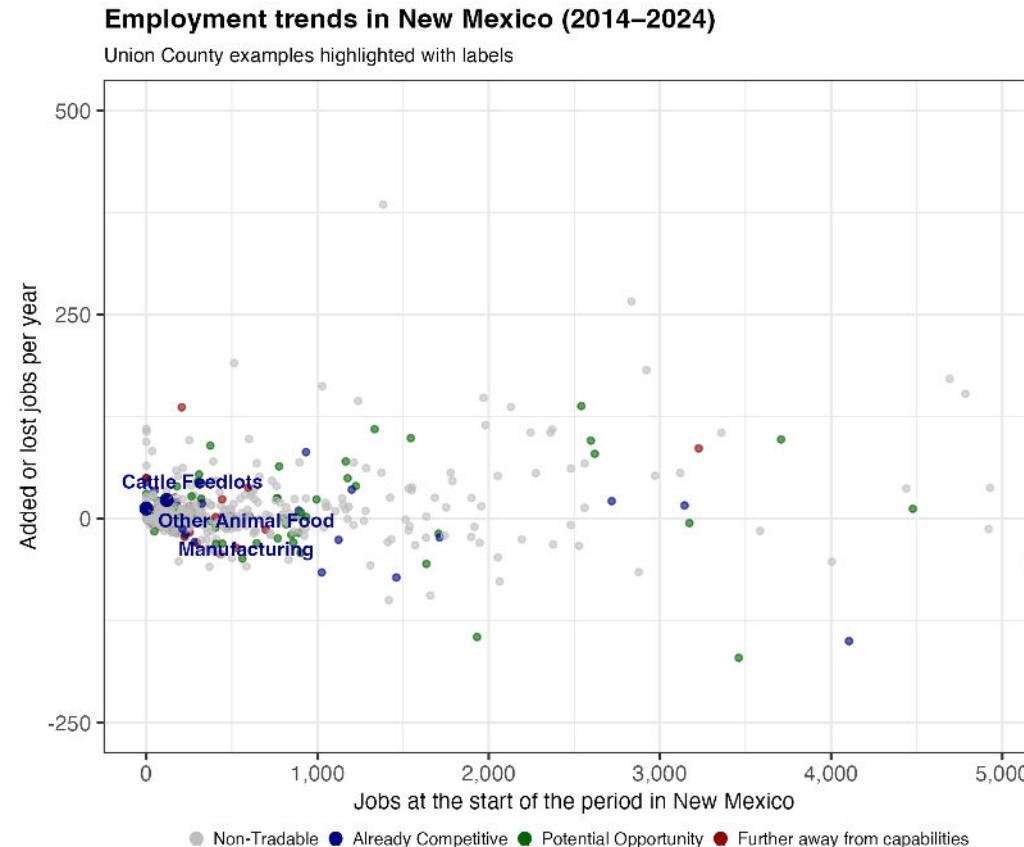
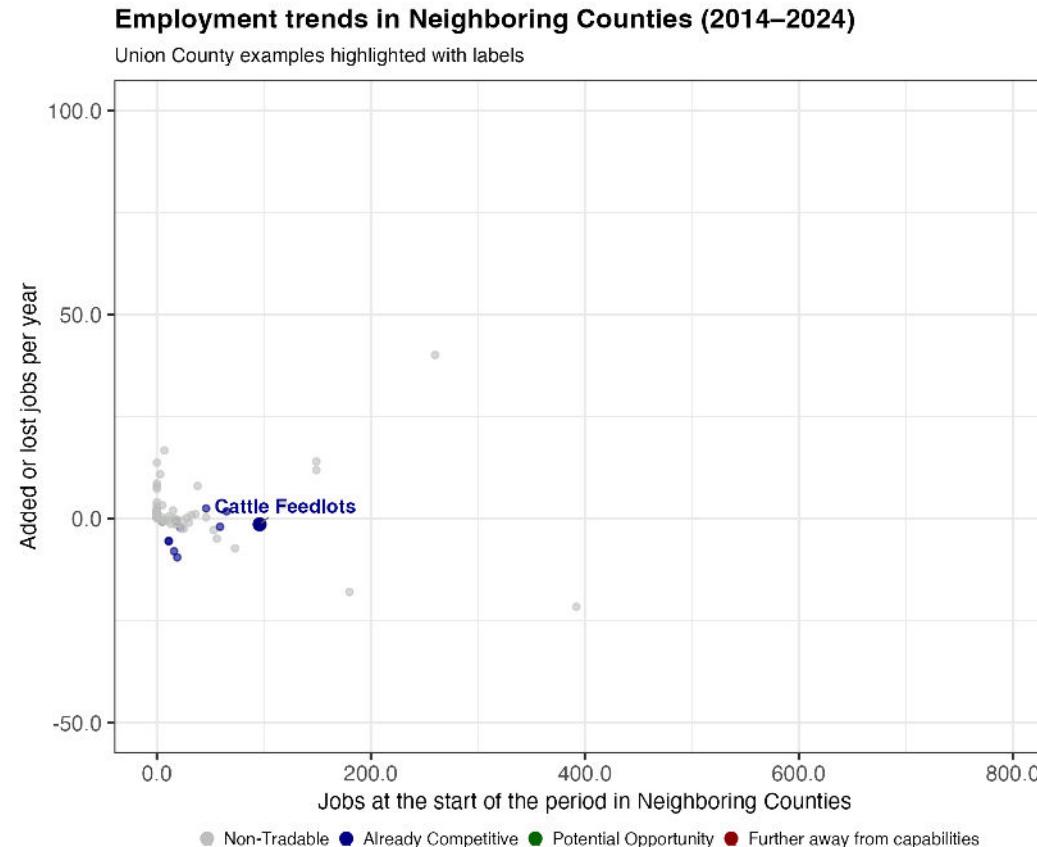
Are local conditions favorable or holding this industry back?



In this graph, the x-axis shows the number of starting jobs in each industry, providing a sense of the industry's initial size and its potential contribution. The y-axis displays the average number of jobs added or lost per year, rather than growth rates, since several industries began with zero employment. The total was divided by the number of years between the earliest and latest data points for each industry. The axes were capped to improve visualization.

Is the industry facing a different situation elsewhere?

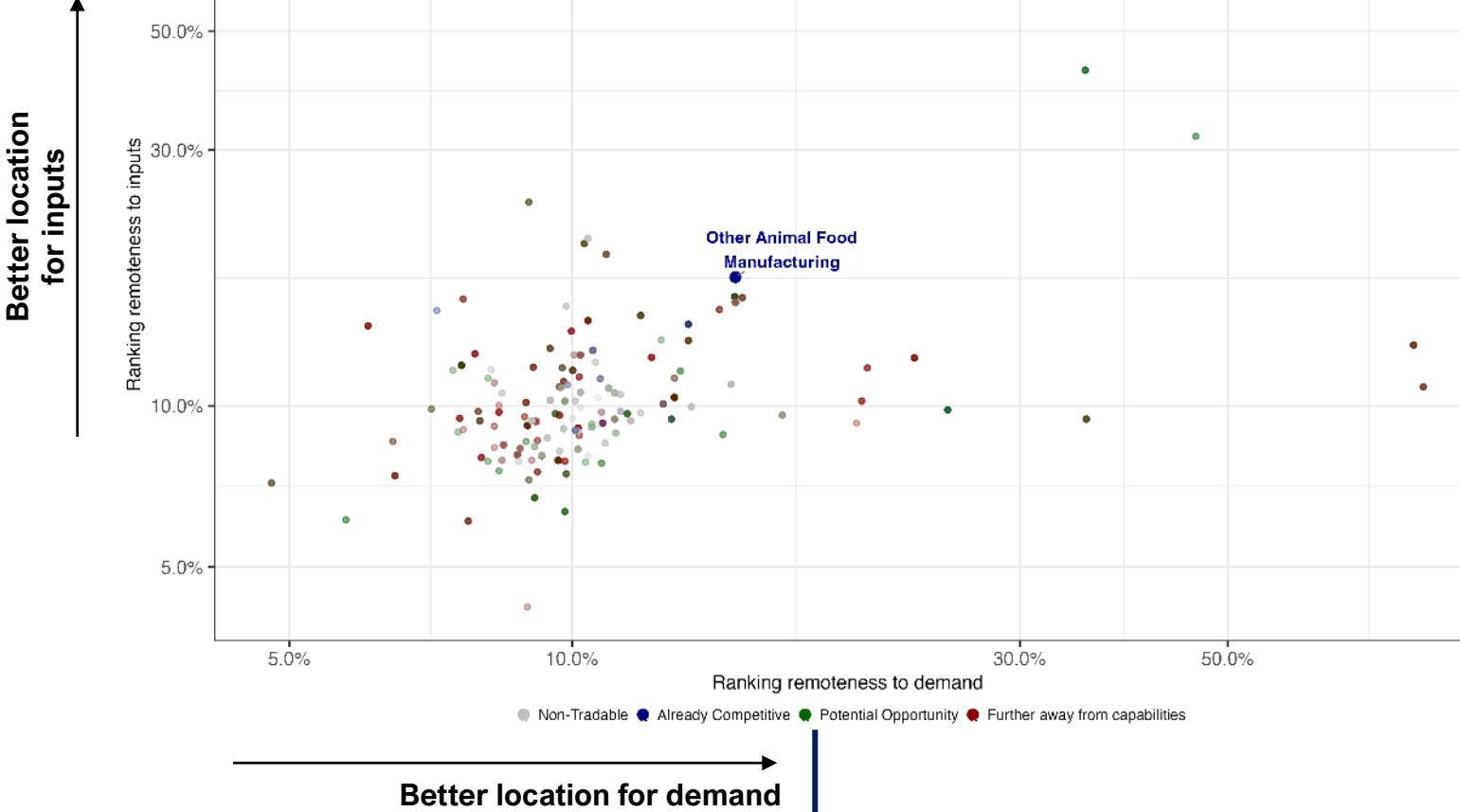
Same axes as the previous graph but for different regions. For neighboring counties, only those that share a border, whether in-state or out-of-state, and are not part of the commuting zone were included. In this case, the selected counties are Colfax, Harding and Quay in New Mexico, and Cimarron in Oklahoma. While barriers to grow may not be obvious for every industry, they could be more evident in some cases than in others.



How attractive is Union's location for the industry?

Union County location attractiveness by industry

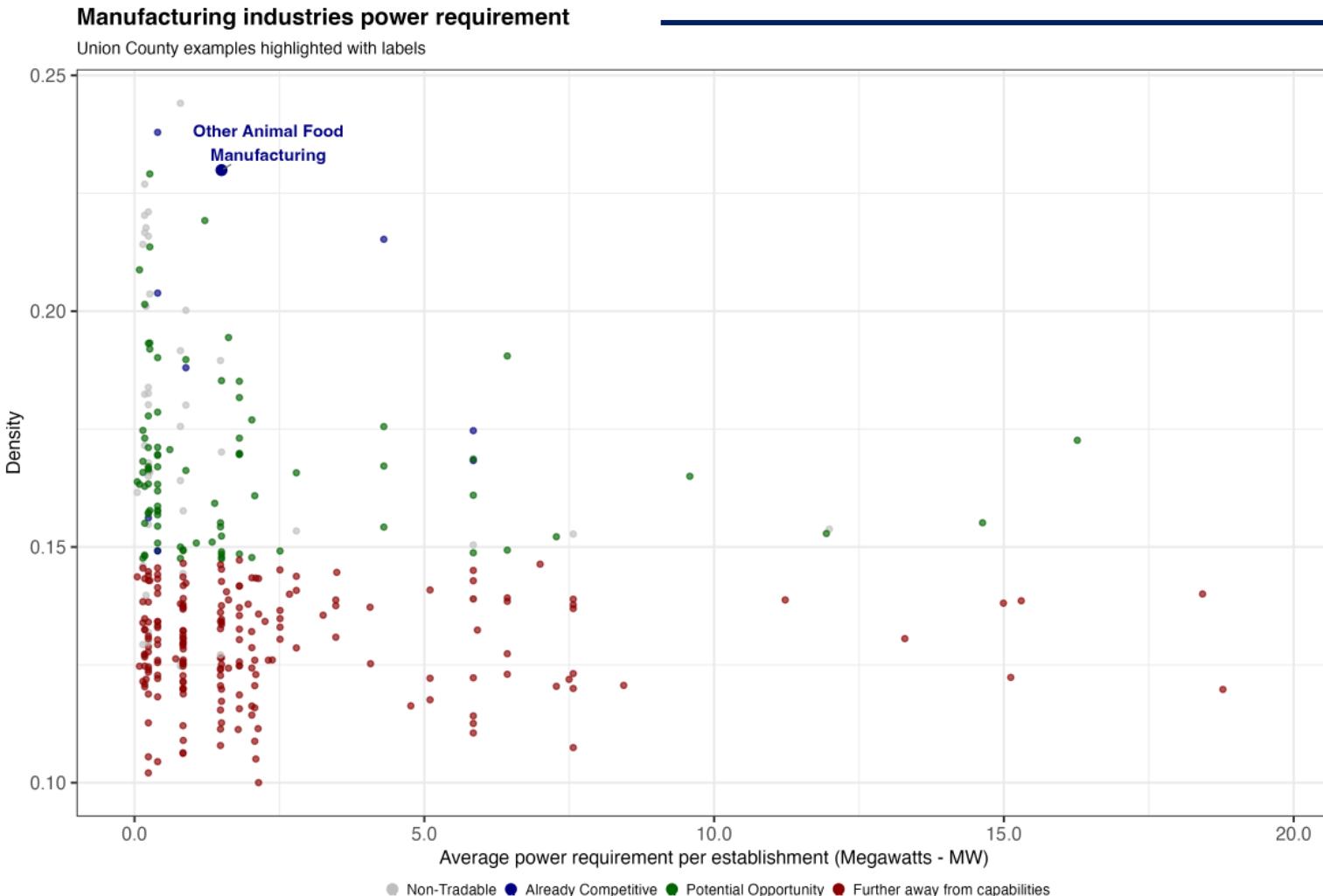
Union County examples highlighted with labels



The competitiveness of some industries depends more on proximity to inputs, while others rely on being close to consumers. By identifying each industry's main inputs and where they are produced and then calculating the driving time from the county to those locations, a "remoteness to inputs" score is created. A similar score for demand is based on the location of main consumers. Together, these scores allow the county's position to be ranked relative to others in terms of access to both inputs and markets.

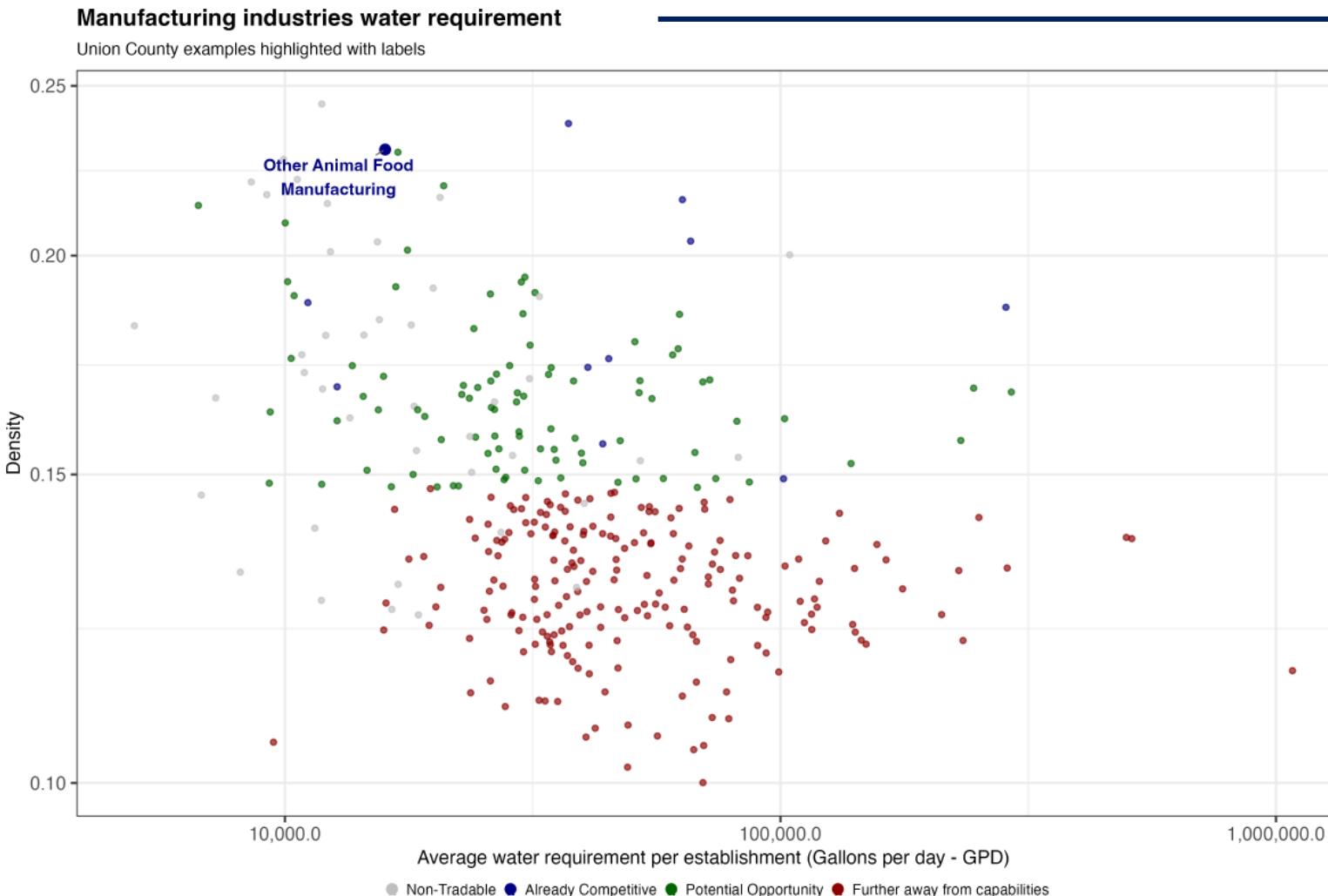
Union's commuting zone is closer to the required inputs for "Animal (except Poultry) Slaughtering" than almost 17% of U.S. counties, and closer to the demand than 15% of other counties.

Can Union meet the electricity needs of the manufacturing industry?



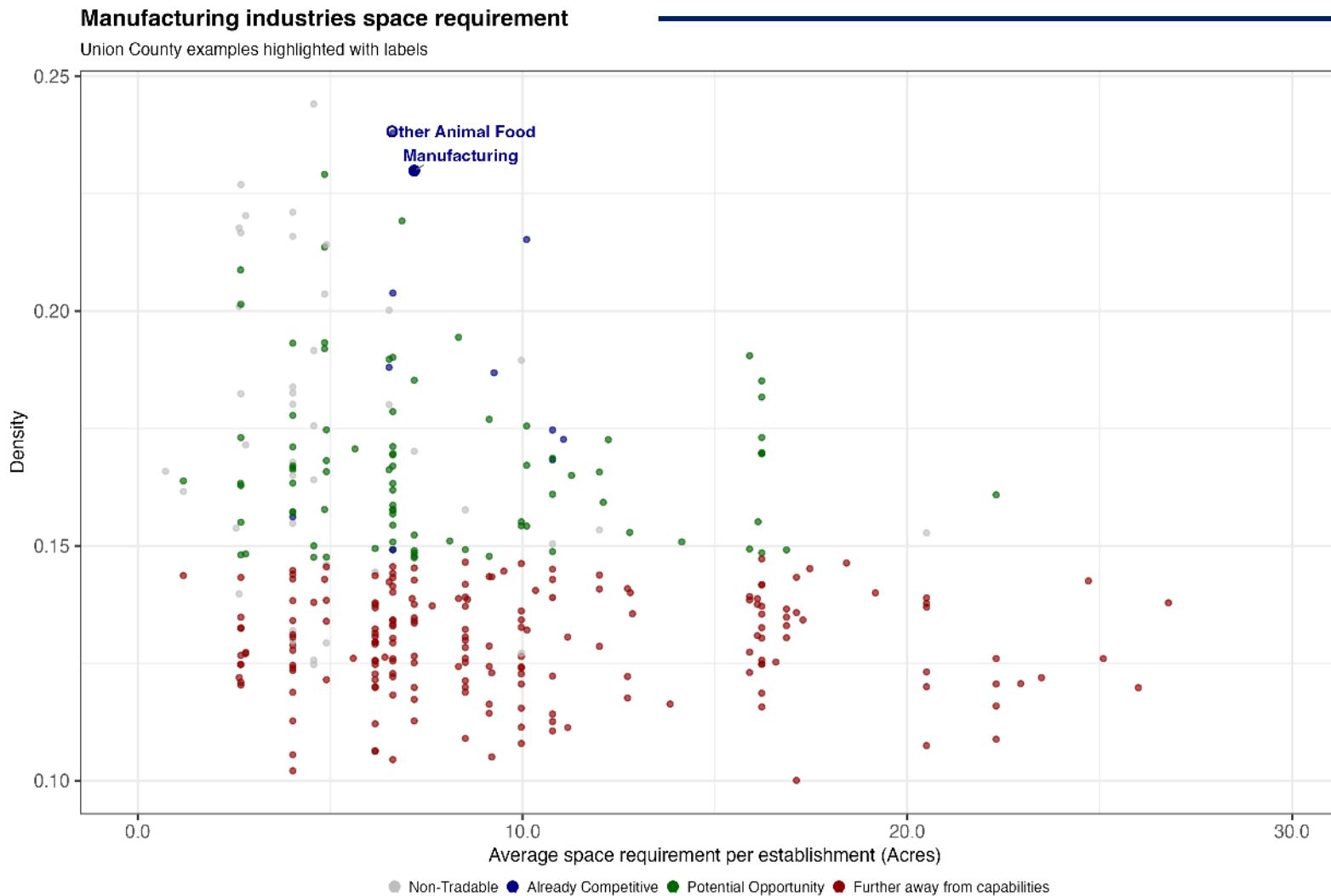
The x-axis shows the average power demand per establishment (in megawatts) for each manufacturing industry. Measuring in MW provides a standard metric to compare how much electricity a typical facility would draw from the grid during operating hours. Only manufacturing industries are included due to data availability. Some industries may be feasible with existing capacity and others could require major upgrades or entirely new infrastructure.

Is Union equipped to supply the manufacturing industry with enough water?



The x-axis shows the average daily water use per establishment (in gallons per day) for each manufacturing industry. Only manufacturing industries are included due to data availability.

Can Union provide the necessary space for the manufacturing industry?



Source: Dun & Bradstreet, Manufacturing Energy Consumptions Survey



Growth Lab

Identifying local opportunities: Union County

January 2025