



# Missouri Economy Indicators

## Broadening Innovation

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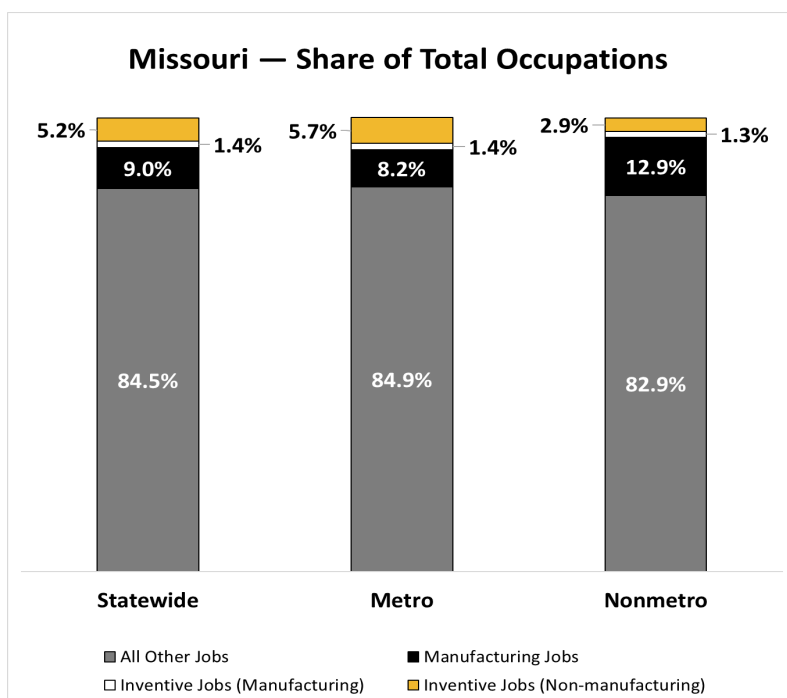
Innovation is commonly understood as the introduction of new technologies that lead to improved outcomes. It involves the adoption of digital technologies and hiring workers with information and communications technology (ICT) skills — it is vital for staying competitive. The [Organisation for Economic Co-Operation and Development](#) (OECD) categorizes occupations as innovative – or “inventive” – if they have a >75% likelihood to patent. Manufacturing industries, which play a crucial role in supporting nonmetro economies, employ many of these inventive occupations to improve production processes, design approaches, materials, etc. – i.e., patentable efforts. Ultimately, innovation leads to improved productivity, reduced costs, and increased competitiveness. Businesses and organizations that fail to innovate typically fall to their more inventive peers.

### Inventive Jobs Cluster in Metropolitan Areas

Roughly 6.6 out of every 100 jobs in Missouri can be classified as “inventive” — with nearly one out of every four inventive jobs in manufacturing. This number climbs to 7.1 in metro counties and drops to 4.2 in nonmetro counties.

Nonmetro counties’ economies are more dependent on manufacturing with an average of 14.2% employment in this industry, compared to 9.6% in metro counties and 10.4% statewide.

Despite this higher concentration of manufacturing jobs, nonmetro counties contain a smaller portion of the inventive jobs in manufacturing industries.



Source: 2022 Lightcast estimates of payroll and self-employed manufacturing and “inventive” industry employment

### Rural Employers Tend to Staff Fewer Inventive Occupations

Inventive occupations are typically underrepresented in the nonmetro counties of Missouri, with clusters appearing in metropolitan areas and along the I-44 and I-70 corridors. One example of “inventive” occupations is software developers. The [Center on Rural Innovation](#) finds that up to 75% of expected software developer jobs, which play a critical role in manufacturing, are missing in rural areas. Underemployment of specialized tech and other inventive occupations in rural Missouri has the potential to limit the long-term growth and competitiveness of employers in these regions.

Rural broadband initiatives have provided increasing numbers of households and businesses with internet access. However, the positive impact of broadband is limited by the extent and sophistication with which it is adopted.

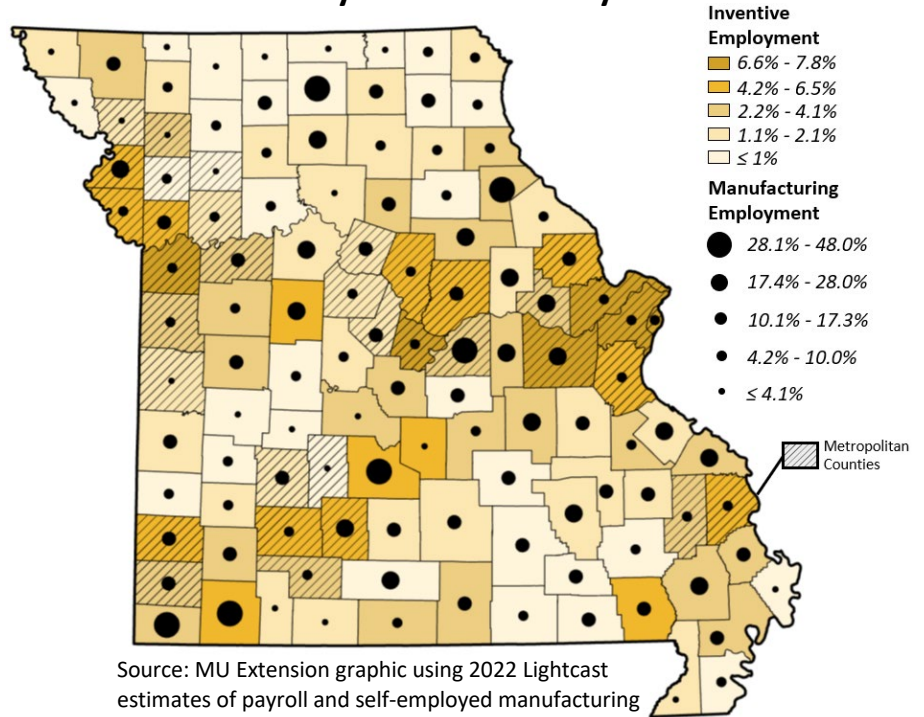
Nonmetro areas could benefit from a broader view of innovation that encompasses new ways of encouraging human capital development such as community-based initiatives aimed at increasing the number of people with ICT skills in their area. For example, given that [50%](#) of the most important innovations in mobile banking originated from household innovators, broadening the view of where innovation happens and where innovators reside is needed to capture the full landscape of innovation.

Public-private partnerships, co-working spaces and incubators that support the development of ICT skills can help to leverage latent skillsets and widen the labor pool. When considering new ways to expand innovation, coupling the knowledge and experiences of nonmetro workers with ICT skills development can be part of a strategy for building a resilient and skilled workforce to support nonmetro businesses such as manufacturing.

### Additional Resources and Notes

- According to the [OECD](#), inventive jobs include: science, engineering, and technical (SET) occupations; marketing and sales managers; engineering managers; market and survey researchers; designers; technical writers; electrical and electronics assemblers; computer control programmers and operators; machinists; model makers, metal and plastic; tool and die makers; and semiconductor processor techs.
- The federal government offers several programs that rural communities can leverage to catalyze an innovation economy including the EDA's [Build to Scale](#), [STEM Talent Challenge](#), and [Economic Adjustment Assistance](#) programs; and USDA's [Rural Innovation Stronger Economy \(RISE\)](#), [Rural Business Development Grant](#), and [Community Facilities Direct Loan and Grant](#) programs.
- Missouri's [Small Business Development Centers](#) have [resources](#) available to both new and existing businesses interested in commercializing innovations.

## Share of Inventive and Manufacturing Employment by Missouri County



All Missouri Economy Indicators briefs in this series are available at <http://muext.us/MissouriEconomyIndicators>

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