

Private Business Remote Work and Productivity Growth 2019–23

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American Community Survey (ACS) Data Users Conference, May 29, 2025



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Productivity Measured by BLS

- Labor Productivity = $\frac{\text{Output}}{\text{Hours Worked}}$
- Total Factor Productivity (TFP) = $\frac{\text{Output}}{\text{Combination of Inputs}}$

Inputs can include capital, labor, energy, materials, and purchased services.



Productivity and Remote Work Previous Research

- Labor Productivity primarily studied
- Economy/Sector Level
- Individual Companies/Workers Productivity

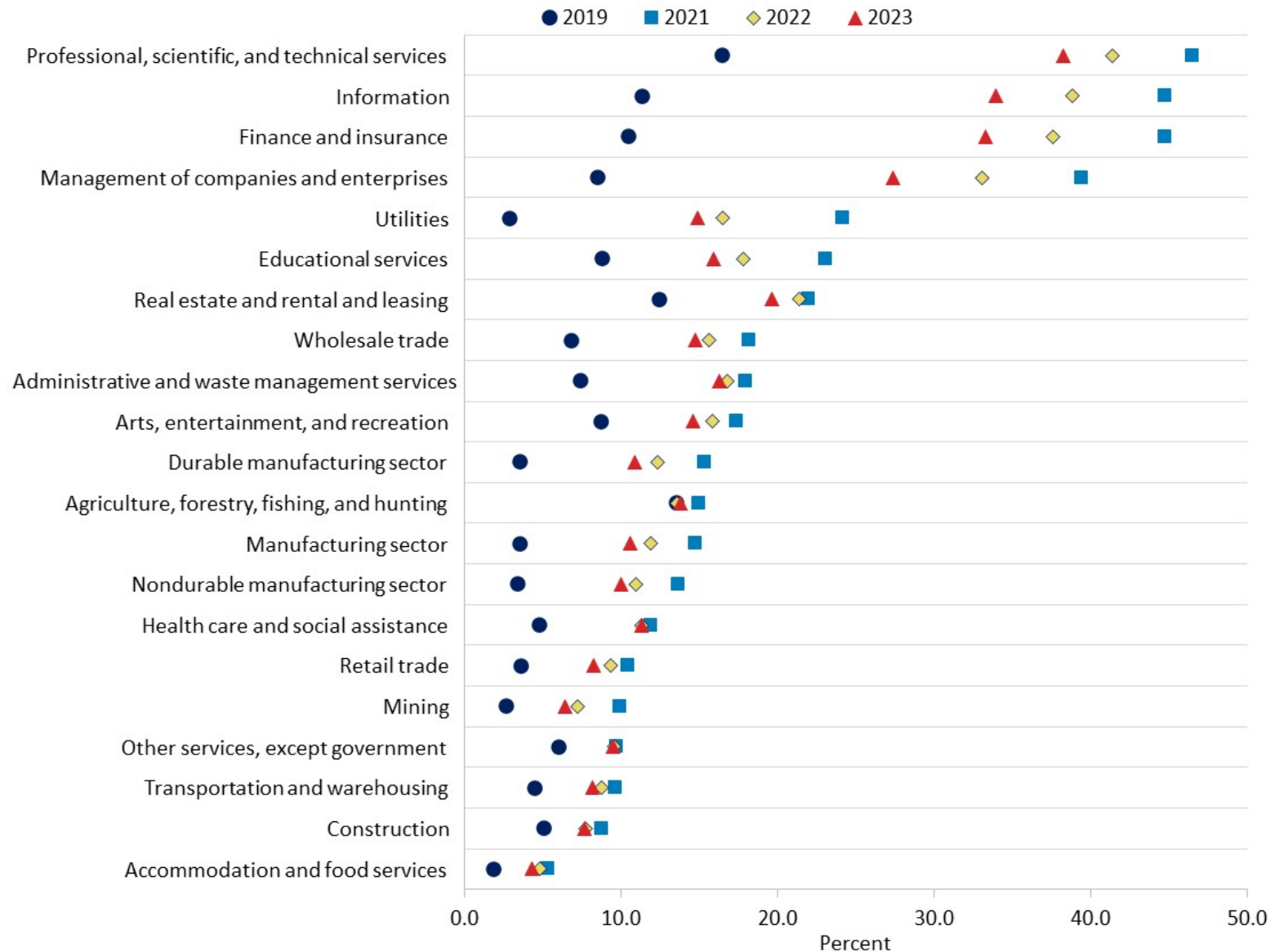


Productivity and Remote Work

- Our study uses Total Factor Productivity 61 detailed industries and 21 major industries, private business
- Remote work is based on answering “Worked from home” to “How did this person usually get to work LAST week?” American Community Survey (ACS)

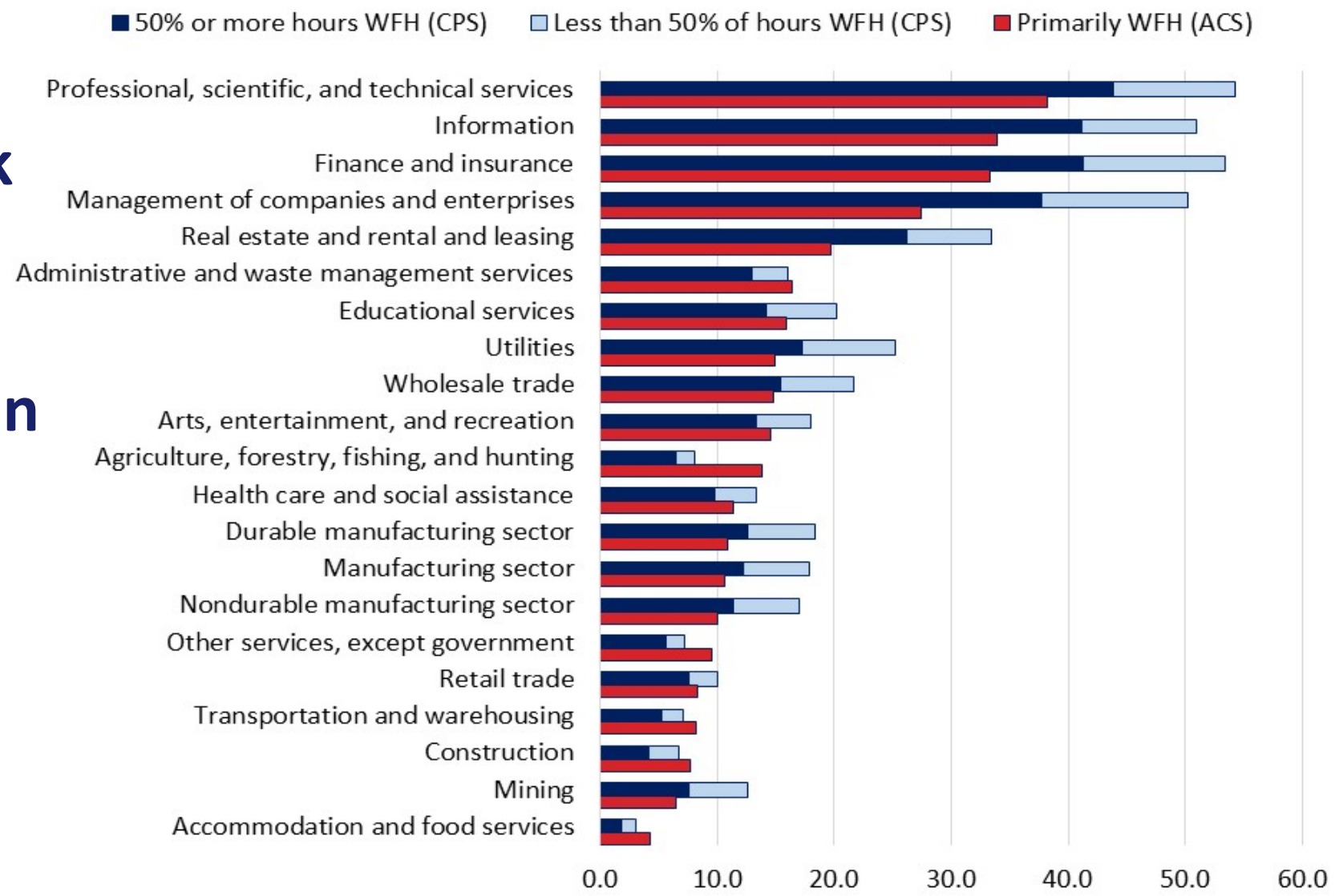


The rise in remote work across 21 major industry groups



Mean = 9.9%
from 2019–23

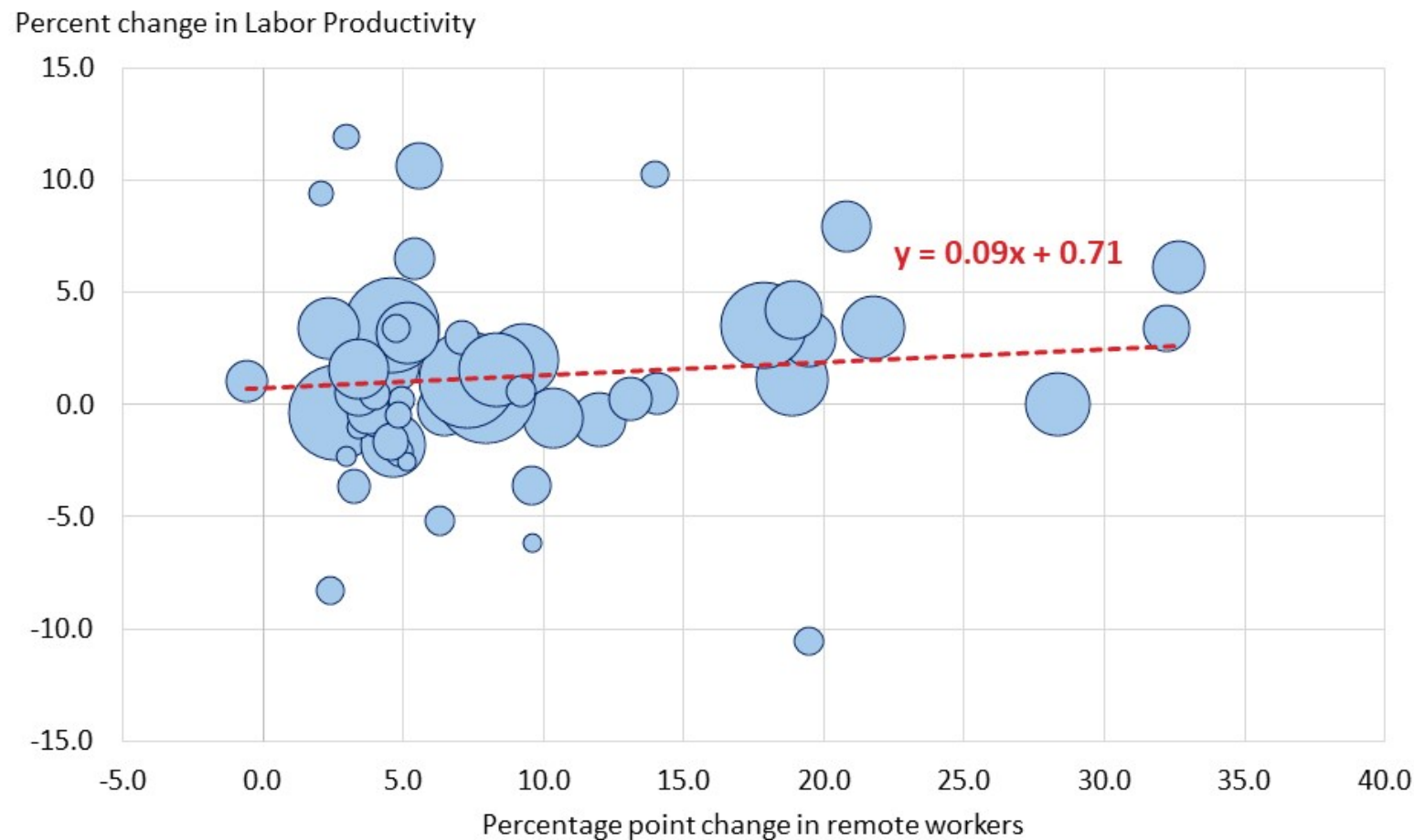
Comparison of work from home in the Current Population Survey and American Community Survey by major industry group, 2023



Source: U.S. Bureau of Labor Statistics, Current Population Survey and U.S. Census Bureau, American Community Survey



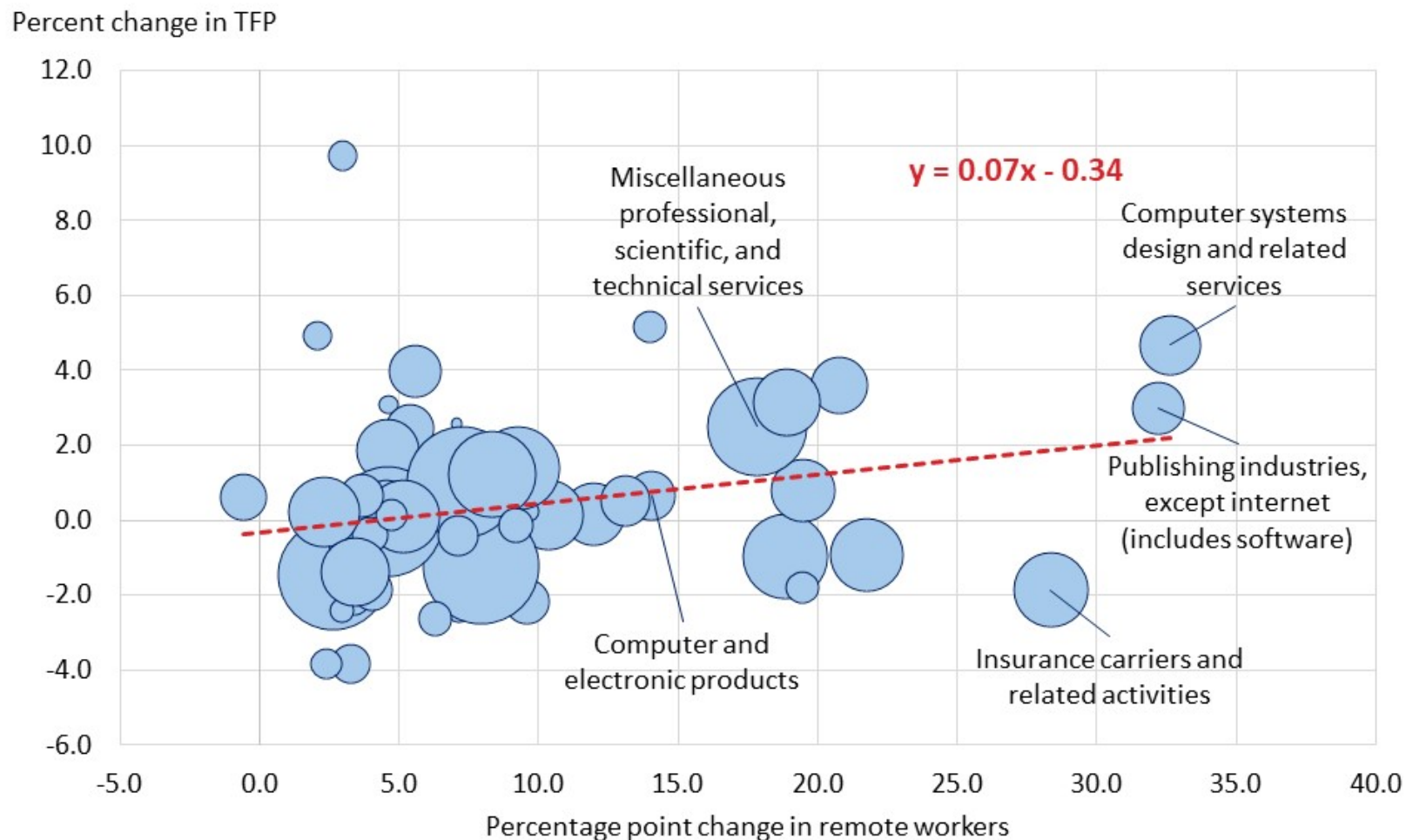
The rise in remote work is **positively correlated** with labor productivity (2019–23)



Source: U.S. Bureau of Labor Statistics, Productivity program and
U.S. Census Bureau, American Community Survey



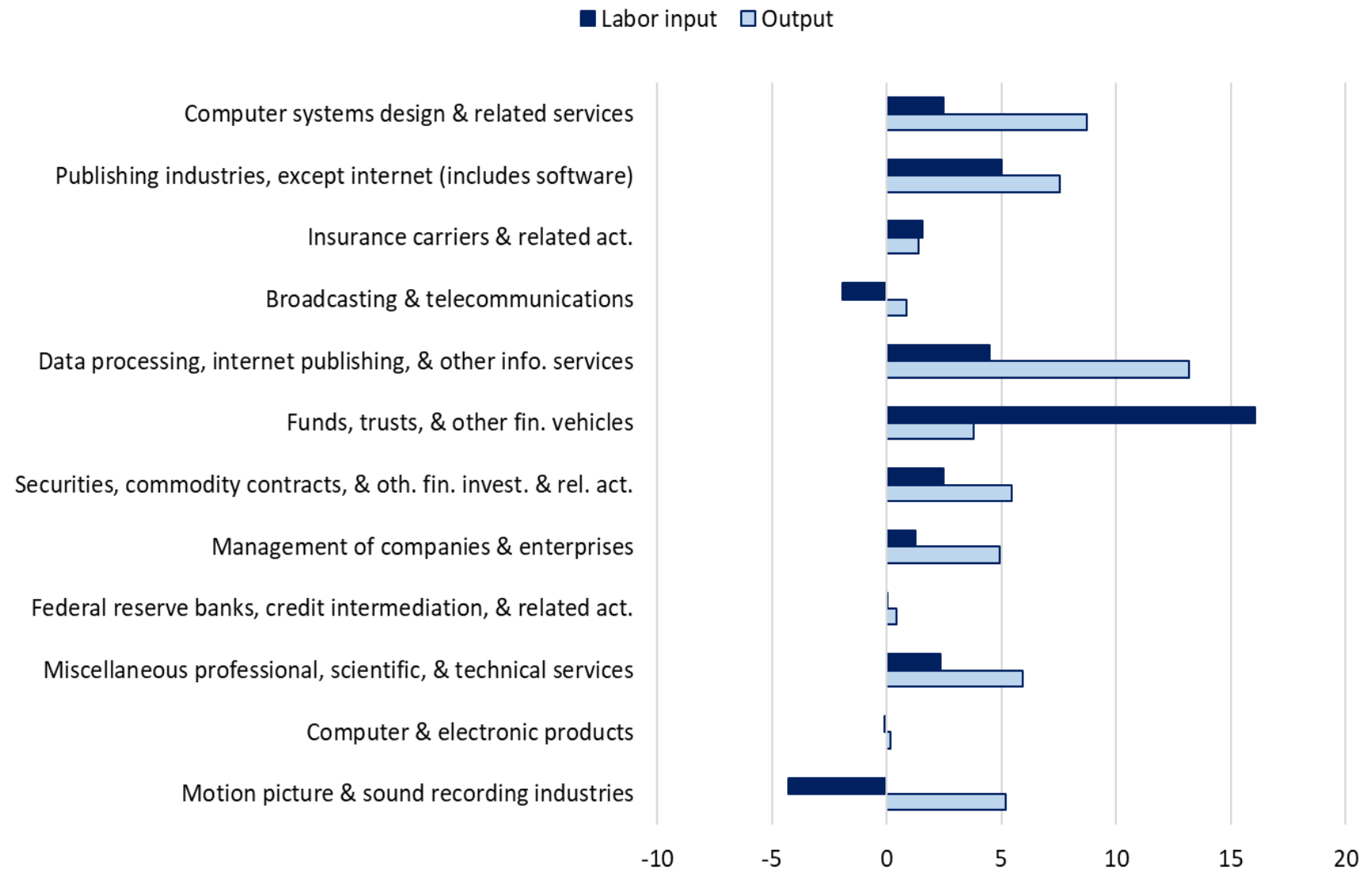
The rise in remote work is **positively correlated** with total factor productivity (2019–23)



Source: U.S. Bureau of Labor Statistics, Productivity program and
U.S. Census Bureau, American Community Survey

Output growth and labor input growth in the 12 detailed industries with the largest increases in remote work (2019–23)

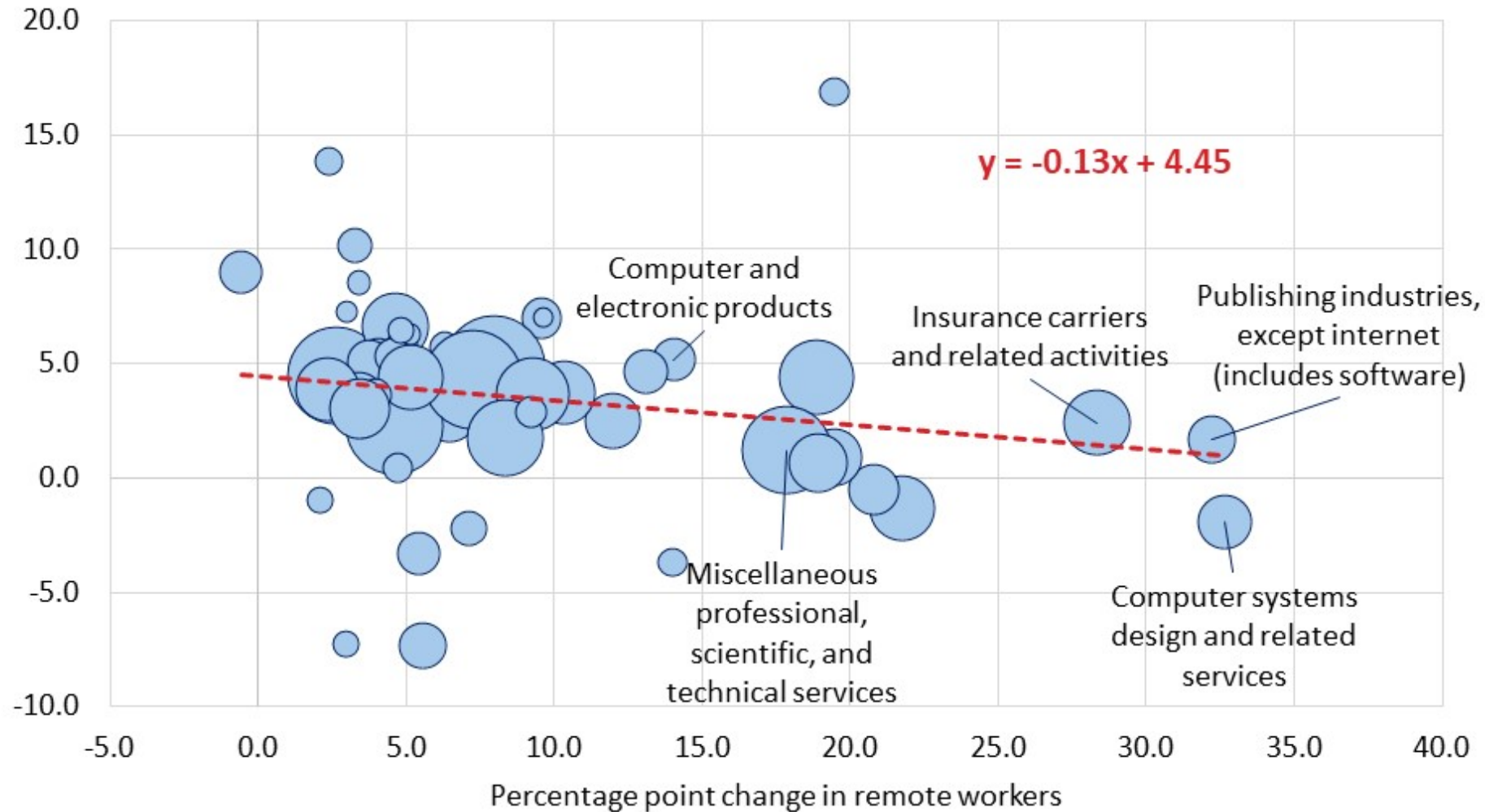
■ 10 of the 12 increased output without increasing labor by the same percentage



Source: U.S. Bureau of Labor Statistics, Productivity program and U.S. Census Bureau, American Community Survey

Remote work and unit labor costs, 2019–23

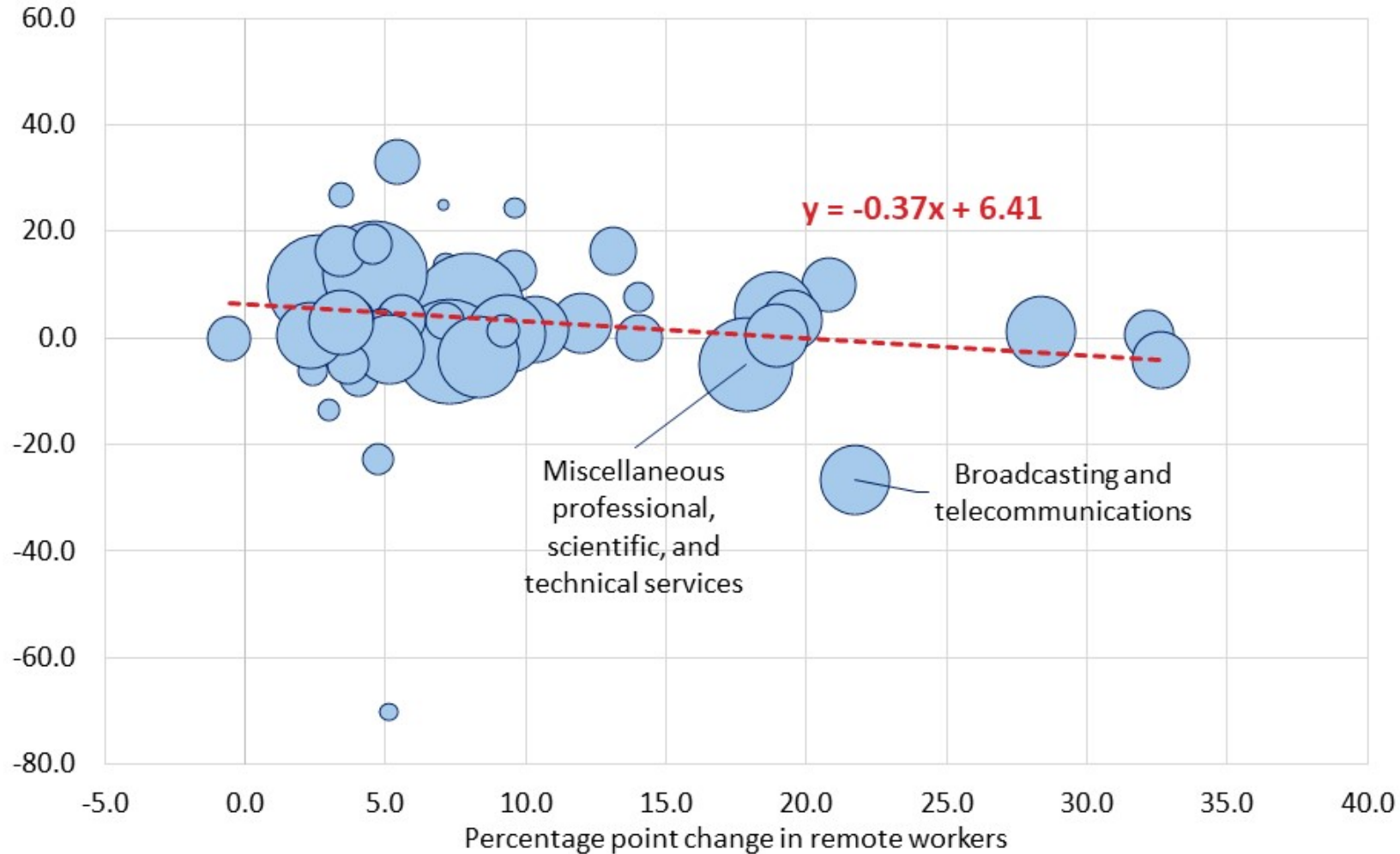
Percent change in unit labor costs



Source: U.S. Bureau of Labor Statistics, Productivity program and U.S. Census Bureau, American Community Survey

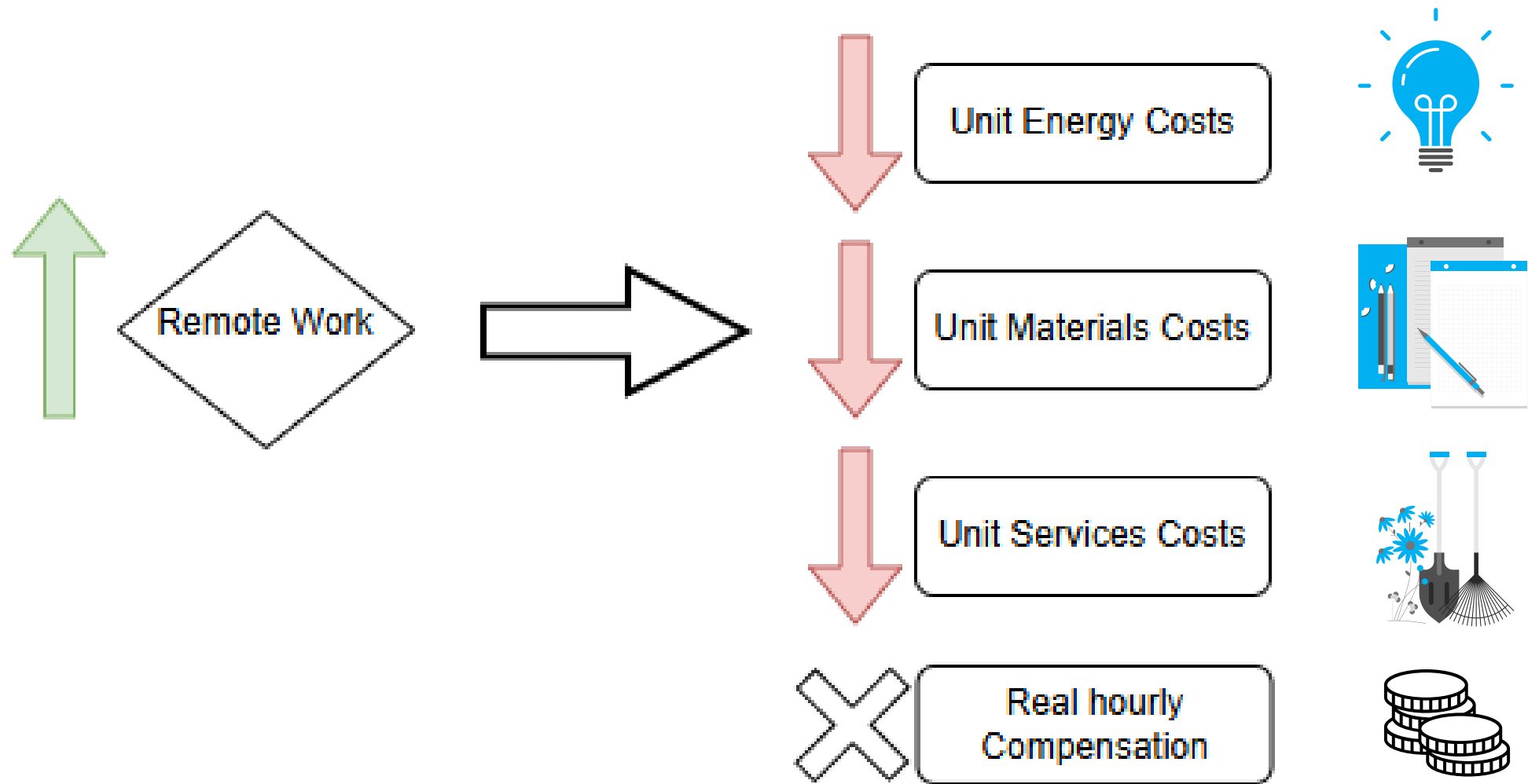
Remote work and unit office building costs, 2019–23

Percent change in unit office building costs

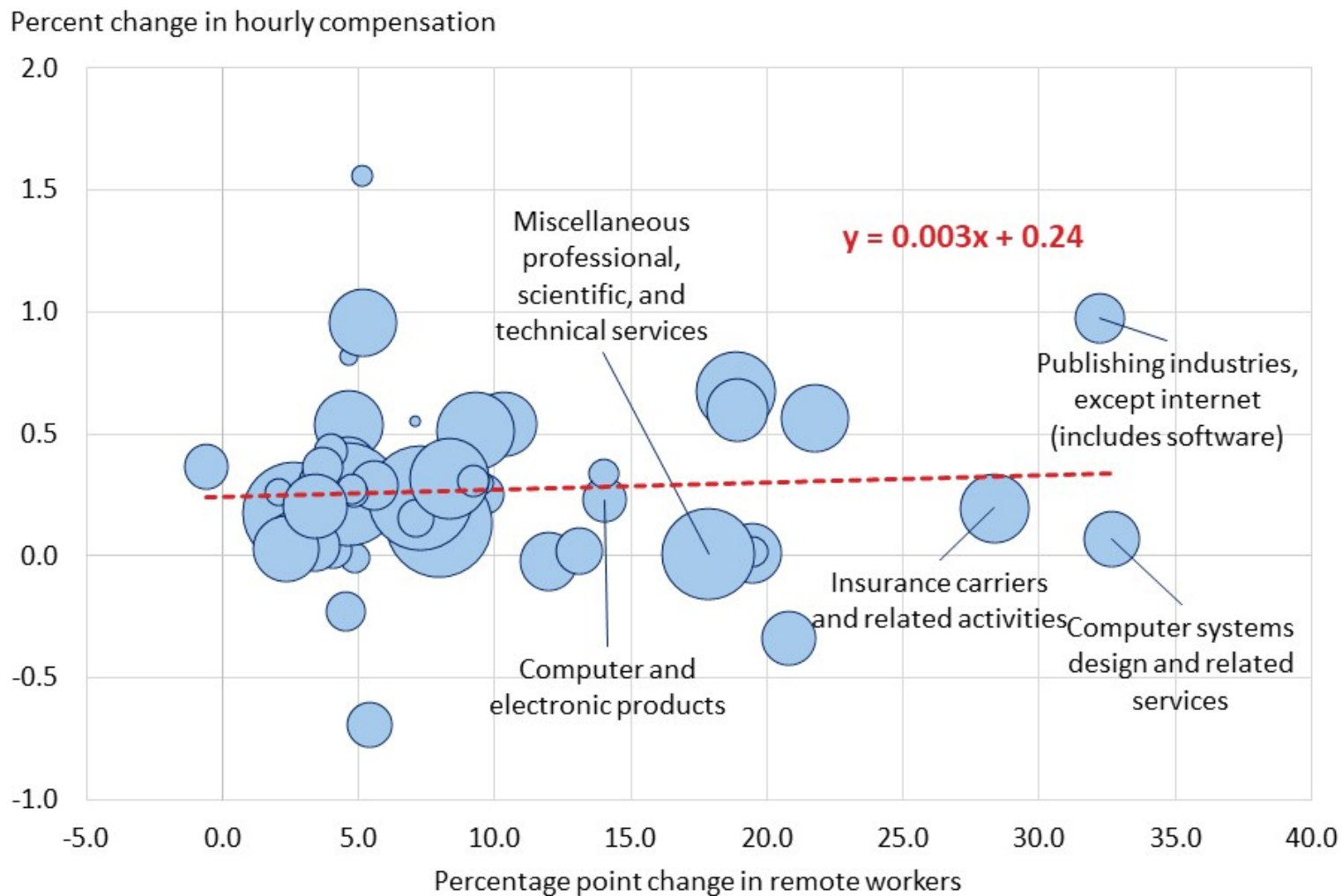


Source: U.S. Bureau of Labor Statistics, Productivity program and U.S. Census Bureau, American Community Survey

2019–23 Correlations



Remote work and hourly compensation, 2019-23



Source: U.S. Bureau of Labor Statistics, Productivity program and U.S. Census Bureau, American Community Survey



Conclusion

- There is a positive relationship between the percentage point change in remote work and productivity.
 - ▶ Labor Productivity: 0.03 (2019–21) and 0.09*(2019–23)
 - ▶ Total Factor Productivity: 0.08* (2019–21) and 0.07 (2019–23)
- Unit labor and nonlabor costs (capital, office building, energy, materials, and services) decline with percentage point increases in remote work.
- TFP gains are not passed on to workers in terms of real hourly compensation.



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