LINCOLN INSTITUTE
OF LAND POLICY

Comments on "Telework and Local Tax Performance" by David Agrawal, Jeff Bjarka and William Fox

Kim Rueben, Senior Advisor, Land and Fiscal Systems

September 12, 2025

The changing evolution of work and what it means for patterns of state and local taxes

- Following Covid pandemic, there was a shift in remote work with percent days worked remotely increasing from 7.2% in 2019 to 61.5% in May 2020 to 28% in 2024. (Chernick and Reschovsky 2025)
- How will state and local revenues change as patterns of employment change and the decision of where to live/work is not as tied to the decision of where employment is located
- How might this affect tax revenues?
  - State income taxes – might decline if people move out of state
  - Property taxes – shifts as there may be less demand for commercial real estate, but increase in size or changes of residential property
  - Sales taxes – location and type of purchases can change

Is there a doom loop? Will central cities face decline and demise?

- Hypothesis that as work is done from home, commercial real-estate will stagnate and central business zones will empty out and cities will not be able to afford services
  - Have seen declines in commercial rents, downward pressure on property tax
  - Initial declines in residential populations in some cities
  - Hard to understand what central cities and work districts will look like
- Given long corporate leases and slow pattern in reassessment – we might not know yet
- But early evidence is that the doom loop scenario may apply to a few places not widespread (Chernick and Reschovsky (2025), Chapple (2025))
- But it is the case some places will be harder hit, depending on reliance on commercial property and the industrial mix of their city
- Also likely means a shift from commercial property taxes to other revenue sources

Agrawal, Bjarka, Fox Paper

- The authors have incredibly detailed data on how sales (and property values) and the taxes generated have changed in the period before during and after the COVID-19 pandemic and can answer questions on how local revenues have changed and might be expected to change in Tennessee
- No income tax, so that is off the table
- Examine both property taxes and sales taxes across different counties and some cities taking advantage of information on industrial mix in different places and the fact that specific industries are more and likely to be subject to remote work
- They examine how patterns have changed from before COVID and delve into details across types of purchases and businesses and compare places with more and less exposure to remote work
- Property taxes by use type

What are the questions want to ask, and what's the best way to do this?

- There's a tremendous amount of data but I was looking for more information about where population live and work and how that may have changed.
- Where do people work/live in Tennessee? How many live in the same county where they work? Do they commute?
  - Should the question be about shifting between counties or more information directly on differences between central business districts and surrounding areas or suburban communities?
  - I found some of the additional analysis across cities vs surrounding counties more compelling to these questions about doom loops for central cities, but hoping for more details

Tennessee particularly dependent on local revenues, sales tax

- Tennessee is a relatively low-tax, low spending state. In 2022, Tennessee's per capita revenues/expenditures about 70% US Average. (Per capita revenue $9,637 vs 13,619)
- More concentrated at local rather than state level, raising more than half of own source revenue locally rather than at the state level (53% vs 42%)
- Unsurprisingly also much more reliant on sales taxes, raising about $2,168 per capita from state and local general sales taxes compared to national $1,672
- Leaves especially vulnerable to patterns found in sales tax erosion
- According to Chernick and Reschovsky,TN cities included Nashville, Chattanooga, Knoxville, Memphis more dependent on commercial property taxes – possibly seeing 4-5% decline in property tax revenues

Tennessee


Lake Barkley
Clarksville
Portland
Gallatin
Hendersonville
Lebanon
Nashville
Dale Hollow Lake
Livingston
Cookeville
Center Hill Lake
Oneida
Norris Lake
Kingsport
Bristol
Johnson City
Morristown
Greeneville
Newport
Holston R
Oak Ridge
Knoxville
Maryville
Gatlinburg
Clingmans Dome 6643
GREAT SMOKY MTS
CUMBERLAND
Athens
Cleveland
Chattanooga
Mississippi River
Union City
Martin
Paris
Cumberland
Kentucky Lake
Dyersburg
Milan
Waverly
Dickson
Duck
Franklin
Smyrna
Murfreesboro
McMinnville
Brownsville
Jackson
Lexington
Linden
Columbia
Shelbyville
R
Tullahoma
River
River
Millington
Memphis
Germantown
Bolivar
Selmer
Savannah
Lawrenceburg
Pulaski
Fayetteville
Pickwick Lake
155
40
24
65
75
81

Methodology

- WFH Potential: Treatment/Comparison •
  - Follow Dingel and Neiman (2020) and Brueckner, Kahn and Lin (2023) to construct commuting zone-specific measures of WFH potential: $WFHPOTc(j) = \Sigma i \; sic(j) \; WFHi$
    - where $WFHi$ is the WFH potential of NAICS sector i from DN2020 • $sic(j)$ is the employment share of industry i in commuting zone c containing county j
- Difference in Difference Design • Aggregate monthly data to quarterly or annual level and implement: ln $Rj(c)t = \beta WFHPOTc \times POSTt + \gamma j + \gamma t + \varepsilon j(c)t$ •
  - where $Rj(c)t$ is the revenue or tax base in the county
- Follow Callaway, Goodman-Bacon, and Sant'Anna (2024, 2025) and aggregate across treatment doses by dichotomizing the continuous variable into high (or medium) and low dose treatments
  - Can you distinguish between where jobs are and where not in commuting zone? That is try and focus where expect to see shift in tax revenues?

Should the time period be broken into separate eras?

- Is the question about the ongoing annual patterns and trends or do you want to separate the covid period (when people working remotely, or sometimes being paid not to work) with the latter period?
  - Did people move further out in 2020 and 2021 but did they need to return if move from remote to hybrid work?
- What are on-going patterns? Focus on 2022-2024 and onward as we are in more of a hybrid period.
- Are different patterns in activity reflecting differences in short and long term?
- The paper does a good job at looking at the changing trends in what's covered and shifts in sales tax and sales, also examining whether tax base and structure might need to change
- But less information about what the shift means for places of employment vs where live

Key *Takeaways*

- Declines in sales tax revenues due to telework result from two factors:
  - Changes in the place where goods are sold: shift from larger taxing jurisdiction to smaller taxing jurisdiction.
  - Telework consistent with e-commerce (Agrawal and Shybalkina 2023, 2024)
  - Changes in what people buy: WFH correlated with a shift toward non-taxable services away from taxable goods (digital services, leisure services, etc).
- Key takeaway: WFH creates pressures on antiquated sales tax rules that are best suited for goods rather than the current digital economy.
- Especially problematic for cities. But smaller effects on property tax – *Is this too early and would this be focused on central cities?*
- Agree with conclusions but would like to see them push data to do more, what are possible solutions?
  - Expanding base? Removing limit on sales tax on large purchases
- To examine shifts and doom loop – can you shift analysis and focus more on central city vs surrounding areas?

Conclusion

- Highly recommend the paper
- Authors have highly detailed data and using a diff-in-diff related to exposure to remote work examine changing patterns in sales tax and property tax revenues paying close attention to the idiosyncratic details in place surrounding both taxes
- They find shifts and highlight vulnerability of the sales tax
  - Would love more information comparing central cities and business districts to surrounding areas
  - More information about changes in population overall in the state and across places and how that might affect trends