Artificial Intelligence, Agglomeration, and US Metropolitan Credit Risk

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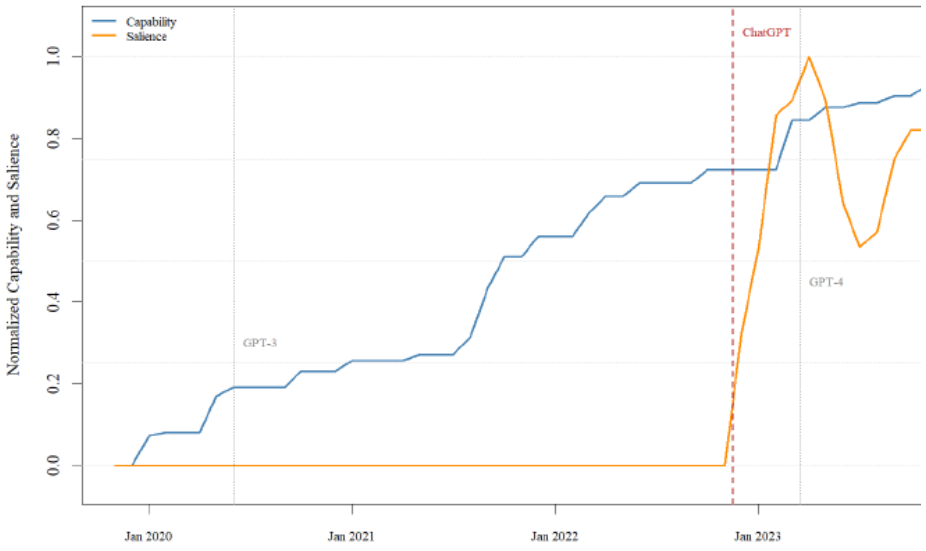
Discussion by Pab Jotikasthira

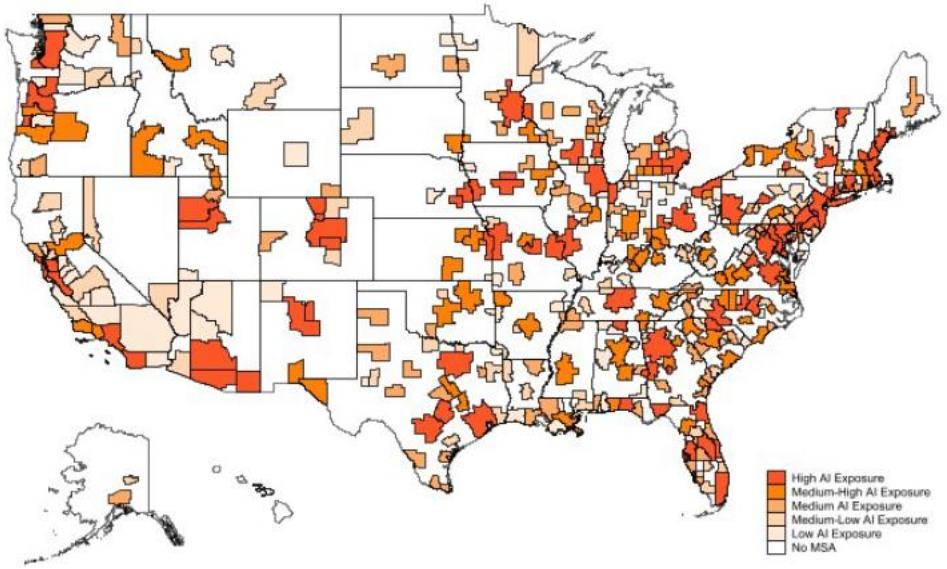
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How do **firm-level effects of AI** add up to **regional economies**, and how does the **municipal bond market** price them? AI may complement local workers or substitute for them, generating surplus but displacing workers → **ambiguous net effects**.

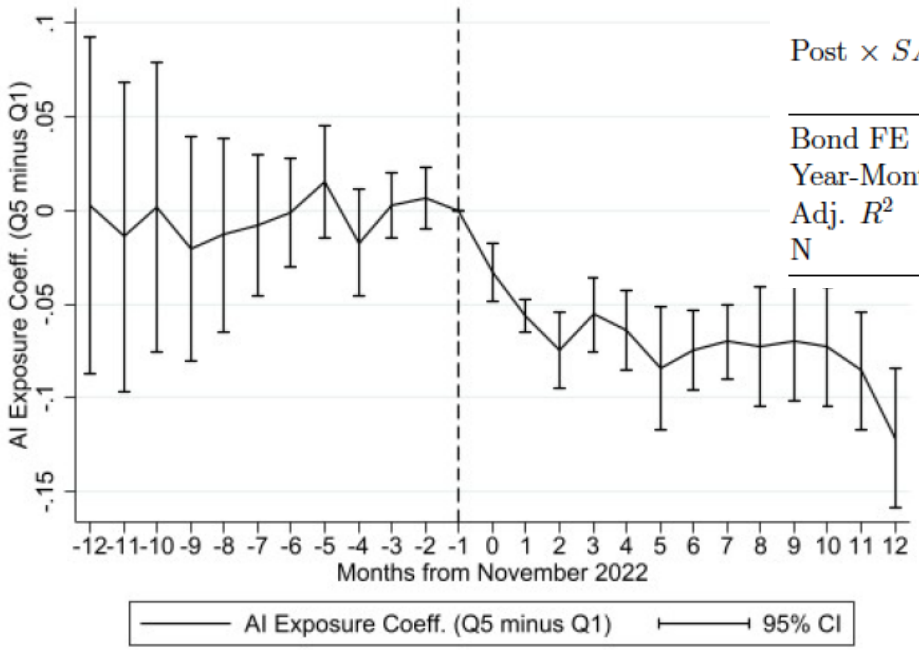
Design:

- **Shock:** ChatGPT launch, Nov. 2022, a shift in AI awareness.
- **Exposure:** MSA AI exposure (AIE) = task exposure (Eloundou et al., 2024), wage-weighted by 2022 occupations.
- **Outcome:** within-bond change in tax-adjusted yield spreads by AIE quintile.





- After ChatGPT, spreads in high-AIE MSAs fall by **7.4 bps** more than those in low-AIEs. Merton model: **+5% value, +1.5% volatility**.
- Bartik IV and thick labor markets → **labor-market channel**.
- Supplemental, not core, task exposure drives it.→ **complementarity**.
- Survey of 44 city finance officers. Fiscal expectations are dispersed and unrelated to AIE.
- Authors' reading: **Agglomeration dominates substitution.**



	(1) Yield Sp.	(2) Yield Sp.	(3) Yield Sp.
Post × $CAIE^{Q5}$	-0.064***		-0.023
	(0.020)		(0.025)
Post × $SAIE^{Q5}$		-0.106***	-0.100**
		(0.029)	(0.037)
Bond FE	Yes	Yes	Yes
Year-Month FE	Yes	Yes	Yes
Adj. R^2	0.797	0.797	0.797
N	2,525,323	2,525,323	2,525,323

My Thoughts

Important, timely question; clever lens.

- AI is everywhere. It is the most important economic shock in decades.
- AI raises firm values (Eisfeldt et al., 2025) and reduces long rates (Andrews and Farboodi, 2025). Effects on the regional middle, where workers, land, and tax bases live, are missing.

My critiques: A striking fact (AI decreases muni yields), but **the story and mechanism are not fully explored**. The paper raises more questions than it answers.

- Contribution: What do munis tell us that equities and Treasuries do not?
- Framework: Who captures AI surplus, and where? Productivity spillovers are agglomeration are mentioned but not modeled or tested.
- Identification: Credit risk or demand? Prices vs. realizations.

Contribution

Level	Core exposure (substitution)	Supplemental exposure (complementarity)	Evidence
Firm (equity)	Labor-cost savings flow to profits, so equity rises	Smaller rise	Eisfeldt et al.: +5% for the long-AI/short-labor port.
National (Treasuries)	Labor share falls, capital owners save more, workers face displacement risk, so expected consumption growth falls	Offsets part of that	Andrews and Farboodi: Long yields fall
Local (munis)	Profits leave the MSA and local labor demand falls or stays flat, so land rents and the tax base barely move	Local labor productivity and demand rise, workers move in, land rents rise, the tax base grows.	**G&M Table 10: Supplemental −10 bps, core ≈ 0**

Puzzle: Single equilibrium model fits all three? Exposure, not adoption (vs. Andreadis et al., 2026). If no local investment is needed, **who captures the surplus?**

Suggest: Equities price rents to mobile capital. Munis price rents captured by **immobile local factors** (land, resident labor). Treasuries reflect the net aggregates.

Conceptual Framework

Model who captures AI surplus (shareholders, workers, landowners) and whether they stay local. **Table 10 is the central result**.

- **Complementarity:** Productivity ↑ → Labor demand ↑ → In-migration → Land rents/tax base ↑ That is, **V ↑ Consistent with supplemental AIE decreasing spreads.**
- **Substitution:** Displacement risk → **σ ↑** But substitution also moves the level because profits leave the MSA, the wage base erodes (or, reinvested?) Therefore, **core AIE should raise spreads. Table 10 shows zero**.

	(1) Yield Sp.	(2) Yield Sp.	(3) Yield Sp.
Post × $CAIE^{Q5}$	-0.064***		-0.023
	(0.020)		(0.025)
Post × $SAIE^{Q5}$		-0.106***	-0.100**
		(0.029)	(0.037)
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Spillovers and Agglomeration

Three concepts, run together:

- **Substitution vs. complementarity:** Occupation level. Table 10 speaks here.
- **Productivity spillovers:** Externality! Possible even under substitution (e.g., firms reinvest locally). Now in the abstract, but **not tested.**
- **Agglomeration:** Spatial outcome. AI may codify tacit knowledge → De-agglomeration. Or, AI may make face-to-face collaboration more productive → Agglomeration. **Not tested.**

Neither necessary nor sufficient for spreads to fall. Glaeser (2010) and Acemoglu and Restrepo (2019) do not model AI-driven agglomeration.

Suggest: Show (a) gains to unexposed local workers (spillovers)?, (b) effects rising with density (agglomeration), (c) distance decay into adjacent counties (spillovers and agglomeration), and (d) in-migration?

Identification and Alternatives

- **Nov–Dec 2022 muni rally.** Nov 2022 was the best month for munis since 1981 (MSRB). Yields fell by 35-70 bps by year end.
- **Demand, not credit (risk premium not risk itself)?** AI-wealthy marginal investors (including firm shareholders) buy munis to shield from tax.

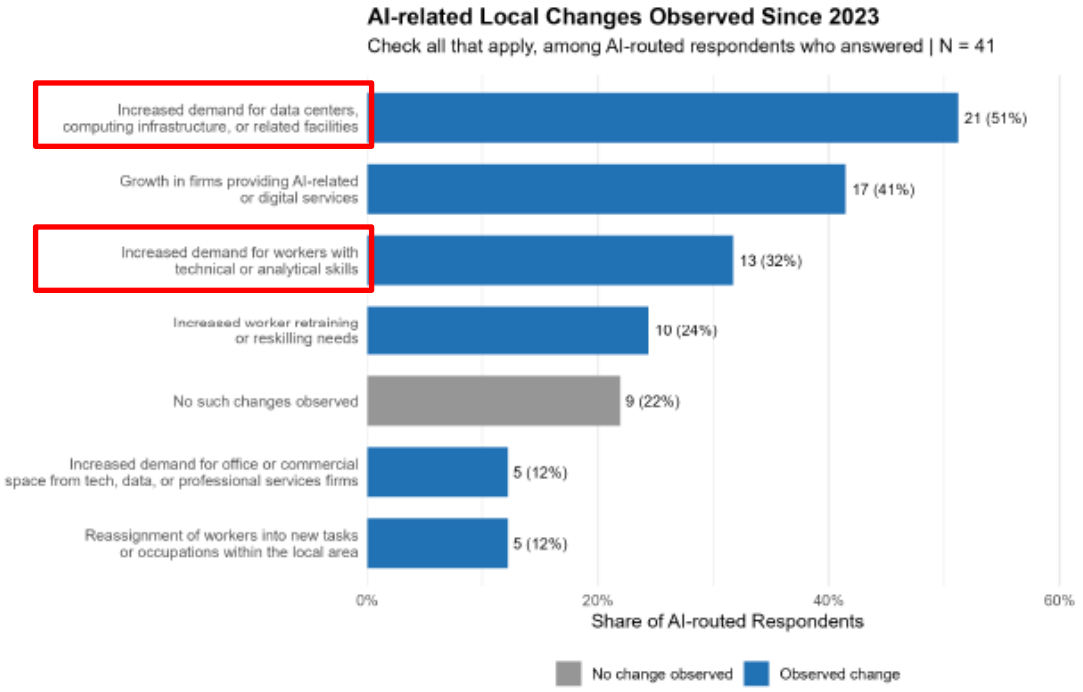
Effects may vary by state privilege, bond types, etc., which may be correlated with AIE.

Suggest: State × YM FE; Maturity x YM FE; **pre-refunded (zero) and insured (muted) placebos**; rating gradient.

	(1) Yield Sp.	(2) Yield Sp.	(3) Yield Sp.	(4) Yield Sp.	(5) Yield Sp.
Post × AIE^{Q5}	-0.068***	-0.070***	-0.062**	-0.083***	-0.074**
	(0.020)	(0.024)	(0.024)	(0.021)	(0.030)
Bond FE	Yes	Yes	Yes	Yes	Yes
Year-Month FE	Yes	Yes	Yes	Yes	Yes
Pop × YM	No	Yes	No	No	Yes
PCInc × YM	No	No	Yes	No	Yes
BSize × YM	No	No	No	Yes	Yes

- **Bartik:** 2014 base year and leave-one-out shifts (Table 6) help with AI feedback, not exclusion: the shift is national occupation growth. No AI shocks – just the cross-section over time. How does it establish the labor market channel for AI impact?
- **Merton** is a quantitative exercise, **not a test of economic mechanism.**

Suggest: Identify the channel through **splits with clear predictions**. For example, firms that are headquartered and owned locally – AI surplus stays local. Tradable vs. non-tradable industries. Property- vs. sales-tax issuers (GO vs. REV). Adjacent (cross-border) counties. **Confront prices with realizations (Eisfeldt et al., 2025)**



Conclusion

Important, timely question. Clever lens. Striking but perhaps puzzling findings.

- MSAs in which workers benefit more from AI and through their supplemental tasks see a significant drop in muni yields.
- Firm-level and aggregate market evidence seems to suggest capital providers capture AI surplus and through substitution (core tasks).
- How to reconcile?

Suggestions:

- Position munis as pricing the local, immobile-factor share of AI rents.
- Build the incidence framework. Make Table 10 central. Test spillovers and agglomeration directly.
- Rule out segmented demand. Add risk-free placebos. Confront prices with realizations (wages, job openings, property prices, etc.)