Positive Public Financing Shocks could Increase Local Racial Disparity

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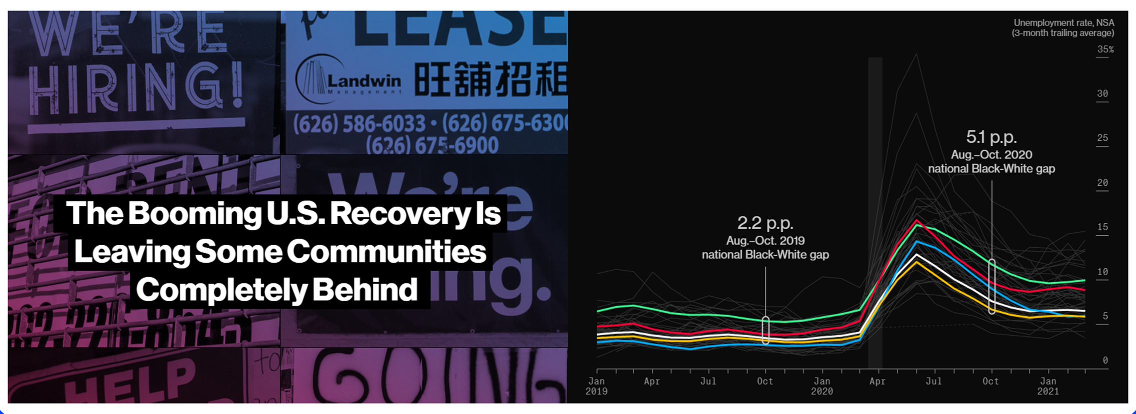
1. Introduction

This paper shows that a positive local financial shock has heterogeneous effects on academic achievement. White students show meaningful improvement, but Black and Hispanic students do not. Consequently, the achievement racial gap widens following the shock. Changes in school funding are not responsible for this phenomenon; rather, it is explained by heterogeneous outcomes in household Socioeconomic Status (SES). Consistent with racial segregation hindering the even distribution of economic gains, the achievement racial gap widens more in more racially segregated areas. These results highlight the possibility that a credit shock induced increase in government spending could perversely increase local racial disparity.

2. Policy Relevance

The findings in this paper are especially relevant as the economy recovers from the pandemic. Specifically, the results from this paper suggest racial segregation could impede the effort towards an nationwide economic recovery from the pandemic.

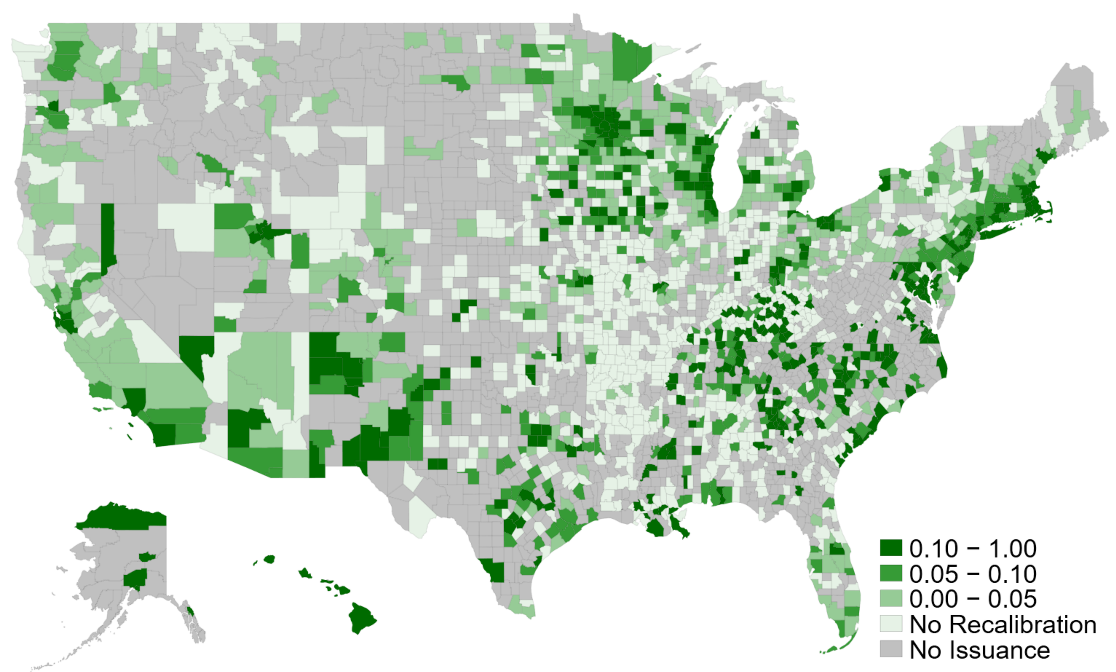


3. Academic Performance Data

Educational outcomes data in this paper is from the Stanford Education Data Archive (SEDA). Leveraging 45 million test scores each year, SEDA is the first dataset that comprehensively covers academic achievement and achievement racial gaps in school districts and counties across the United States from the 2008 to the 2017 school year.

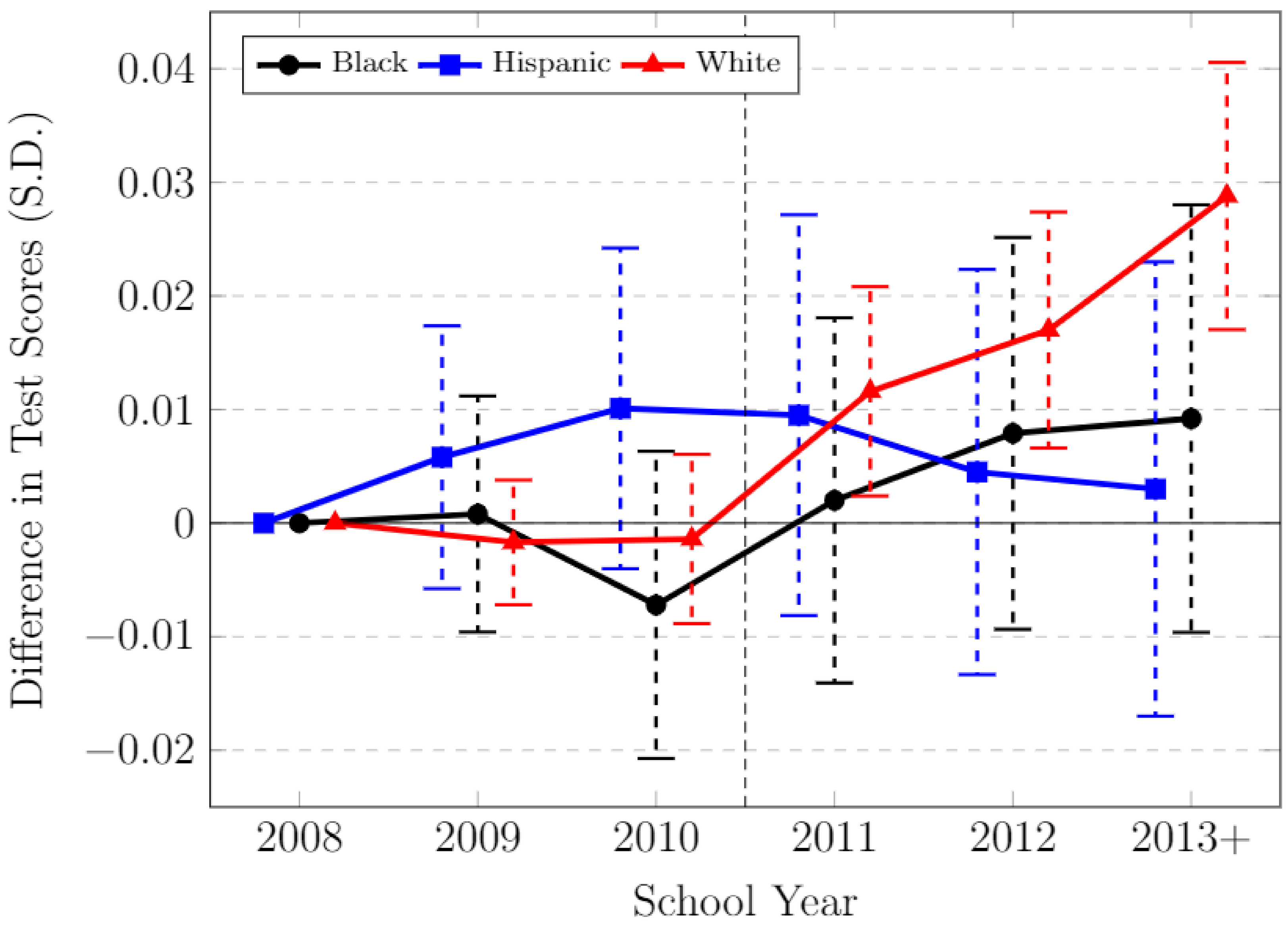
4. Public Finance Shock

To facilitate causal inference, I use Moody's municipal bond rating recalibration in 2010 as a positive exogenous shock to local public financing condition. This recalibration has been shown to significantly increase local government spending and results in various positive spillover outcomes such as increased public and private employment as well as household income.



5. The Heterogeneous Treatment Effect by Race

For White students, there were no pre-recalibration trend in the 2009 and 2010 school year. There is a significant and persistent improvement after recalibration for White students. Hispanic students in treated counties show a statistically insignificant improvement in pre-recalibration period and a slight decline in post-recalibration period, but none of the estimates are statistically significant. Black students also display a mild improvement after the recalibration, but the effect is economically small compared to White students and statistically indistinguishable from zero.



6. The Household Well-being Channel

This section studies the heterogeneous treatment effect of Moody's recalibtation on household socioeconomic well-being as a potential explanation utilizing the county-year-race level SES variable provided by SEDA. There is a significant improvement in White households' socioeconomic status. The recalibration does not have a statistically significant effect on Black households' SES. Consistent with the downward trend in test scores in post-recalibration period, the socioeconomic status of Hispanic households are negatively affected.

	(1) SES **White**	(2) SES **Black**	(3) SES **Hispanic**	(4) SES Gap **W - B**	(5) SES Gap **W - H**
Post × Recal. Intensity	0.105***	-0.075	-0.221*	0.217***	0.322***
	(0.035)	(0.080)	(0.119)	(0.073)	(0.103)
County FE	Yes	Yes	Yes	Yes	Yes
State-Year FE	Yes	Yes	Yes	Yes	Yes
R^2	0.959	0.845	0.733	0.797	0.704
Observations	29,078	22,722	26,558	22,651	26,528

7. Role of Segregation

Consistent with the hypothesis that racial segregation exacerbates the uneven distribution of economic gain, the achievement racial gap widens more in treated counties with a higher level of racial segregation. For a one-standard-deviation increase in White-Black (White-Hispanic) segregation, the recalibration results in 0.009 (0.007) standard deviation wider test score gap.

8. Conclusions

This paper analyzes the heterogeneous effect of local financial shock on students of different races. Following Moody's municipal bond rating recalibration in 2010, only White households in treated counties show significant improvement in their socioeconomic well-being. This heterogeneous treatment effect has important intergenerational impact on human capital accumulation: White students from treated counties show significant improvement in their test scores but there is no effect for Black or Hispanic students. Consequently, the achievement racial gap widens as a result of a positive county-wide financial shock. The phenomenon is concentrated in racially segregated areas, suggesting that racial segregation could hinder the even distribution of economic benefits from an improved public financing condition.