

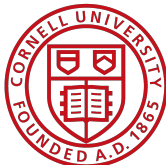
Approaches and Resources for Improved Student Outcomes: Evidence from Brazil

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- Learning drives economic growth, individual wage improvements, and reduces inequality in the developing world (González-Velosa et al., 2016; Hanushek & Woessmann, 2015)

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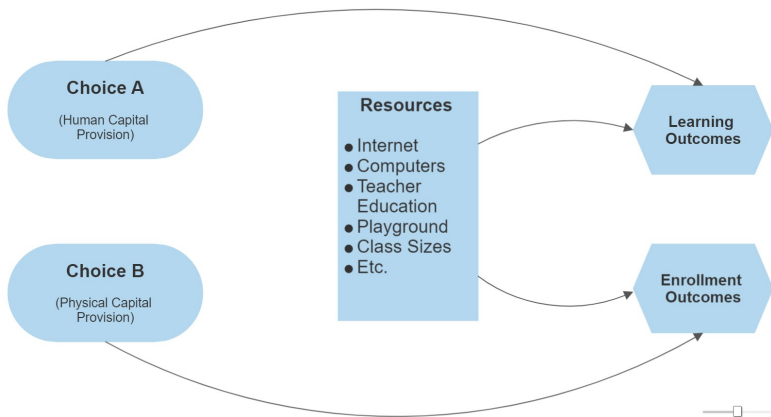
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- However, access to schooling is not a major problem anymore ([Adelman & Szekely, 2016](#); [Bassi et al., 2015](#); [Szekely & Karver, 2021](#))

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- However, access to schooling is not a major problem anymore ([Adelman & Szekely, 2016](#); [Bassi et al., 2015](#); [Szekely & Karver, 2021](#))
- Increasing the quality of education in the developing world remains difficult - with much of the education provided in schools being low-quality with low learning outcomes ([Bruns and Luque, 2014](#); [Evans and Popova, 2015](#))

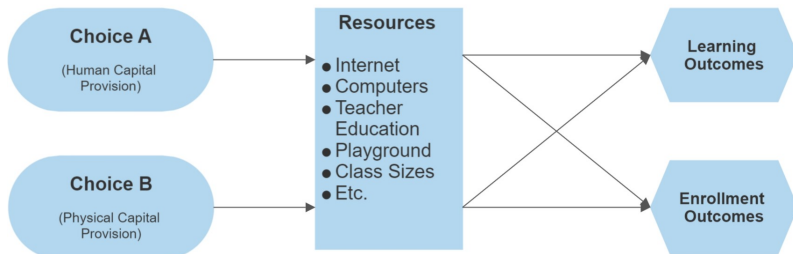
Literature Gap Addressed

As [Glewwe and Muralidharan \(2016\)](#) note, the following can be used to describe the state of the current literature in an abstract manner.



Literature Gap Addressed

And this is how my research approaches the problem.



How do I achieve this?

- Utilized the Strategic Treatment Effects (STE) framework developed by Guzman (2021)
- Examined three kinds of actions at the municipal level:
 - Focusing on providing the best human capital to schools
 - Focusing on providing the best physical capital to schools
 - Providing high-quality human capital & physical capital
- Evaluated the effect of these strategies on 5 outcomes:
 - *Learning Outcomes*: Math & Portuguese scores
 - *Enrollment Outcomes*: Pass Rates, Failure Rates, & Dropout Rates

Figure: Outcome – Dropout Rates

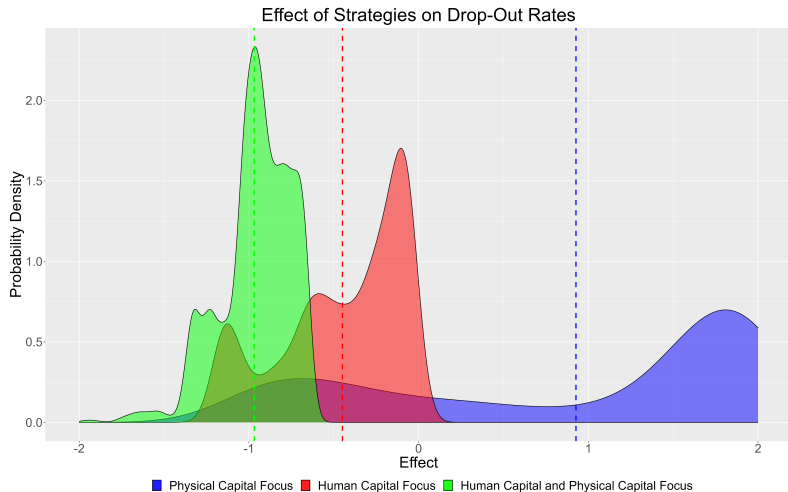
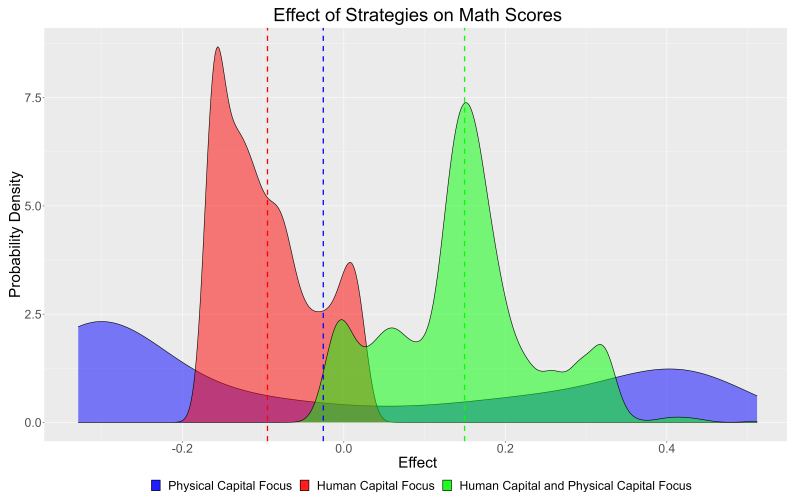


Figure: Outcome – Failure Rates



Figure: Outcome – Math Scores



- The benefits of a physical capital focus seem to be much varied across all outcomes but failure rates.
- As expected, the intersection of both choices amplifies their effects and outperforms either choice individually.
- If one had to choose between a physical capital focus, and a human capital focus, there would exist a trade-off between the expected benefit of the choice and the 'riskiness' (variance in benefits) of implementing the choice.

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I discover:

- A key framework that accounts for resources available in schools to understand the effects of municipal actions on student outcomes.
- Differences in distributions of effects of choices across multiple municipalities.
- A trade-off that policy-makers might face in this situation, and how the STE framework helps eliminate it – allowing for better decisions

Thank you for listening!

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