

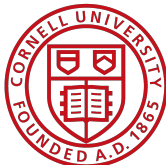
# Approaches and Resources for Improved Student Outcomes: Evidence from Brazil

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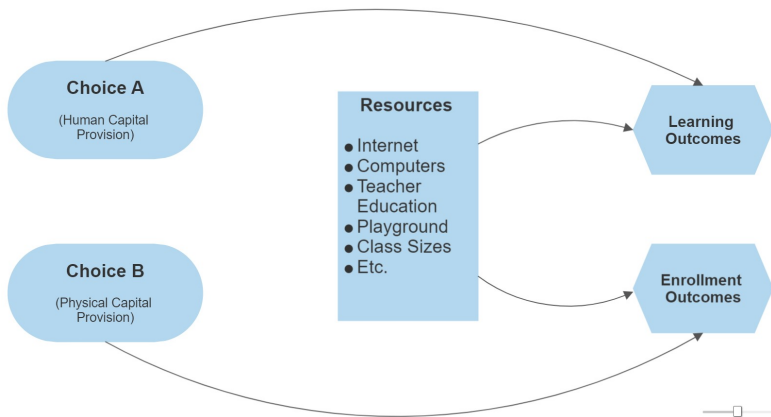


# Motivation

- Learning drives economic growth, individual wage improvements, and reduces inequality in the developing world ([González-Velosa et al., 2016](#); [Hanushek & Woessmann, 2015](#))
- More than three-quarters of Brazilian youth are unable to perform at the lowest level of competence in reading and mathematics ([OECD, 2019](#))
- 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](#))

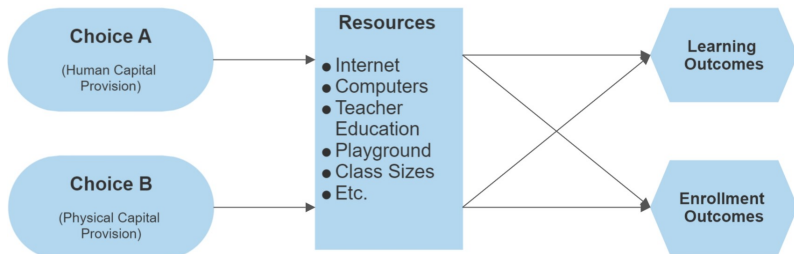
# Literature Gap Addressed

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

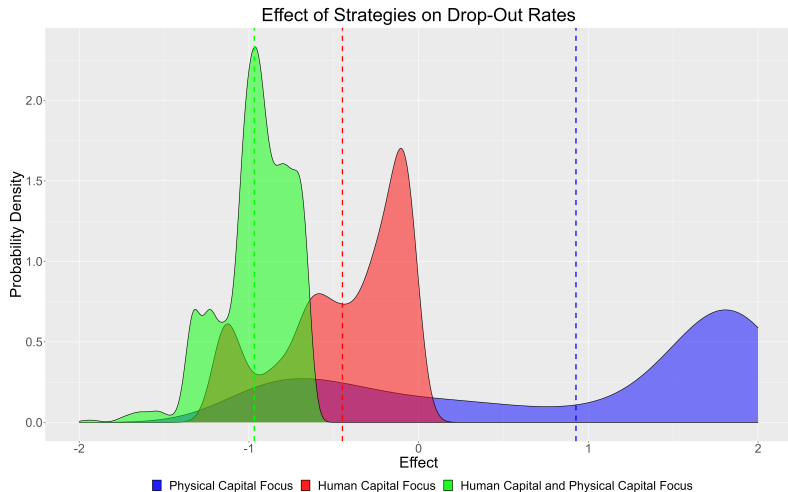


Figure: Outcome – Failure Rates

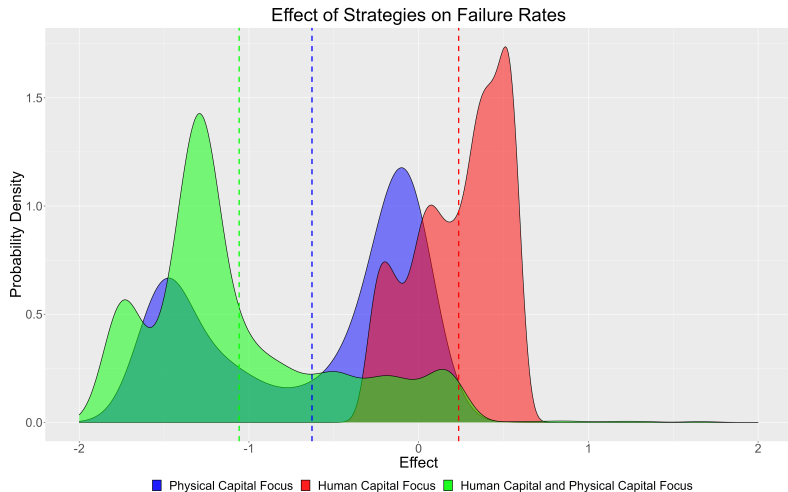
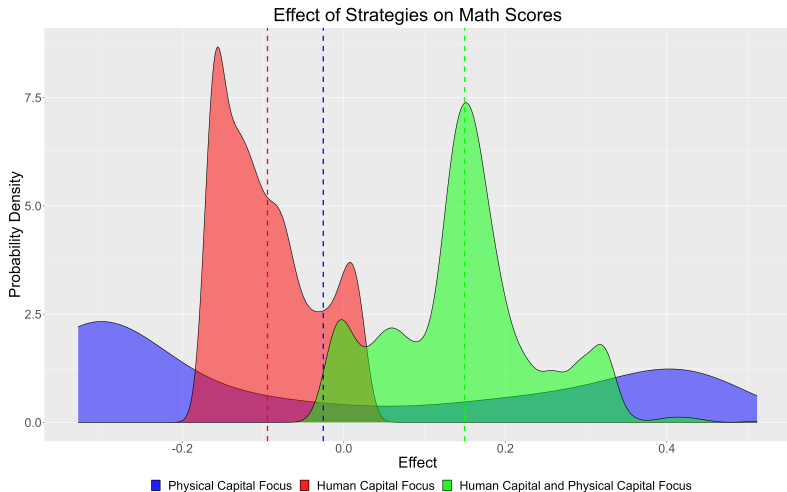


Figure: Outcome – Math Scores





- 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.

# Conclusion

This research connects existing knowledge of two fields that have not historically overlapped - strategy and development.

## **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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