I am a development economist with interests in health economics and economic growth, and I aim to address questions that are relevant for long-run development. I use both theory and statistical methods to analyze different questions. In empirical works, I employ secondary data analyses to assess causal relationships. In theoretical works, I employ numerical solution methods and calibration exercises to assess validity of theories. Below, I summarize two current research projects: the first one is related to the long-term consequences of early life exposure to health socks for lifetime adult outcomes, whereas the second relates to the transition from stagnation to growth, fertility transition, and expropriation risk.

“Early Life Exposure to Malaria and Economic Development” (Job Market Paper)

In my job market paper I contribute to understanding what are the long-term consequences of early life malaria exposure for lifetime outcomes. Malaria is a vector-borne disease and its transmission varies around the year according to suitable climatic conditions. Individuals born in different months find themselves heterogeneously exposed when inside the womb. I exploit this heterogeneity in different locations in Brazil and different years to estimate the causal effects of in utero exposure to malaria on long-term socioeconomic conditions. Whereas previous empirical work have identified differences in exposure to malaria by location and year of birth, my research exploits a narrower measure – by month, year, and location – which allows me to distinguish exposure across different critical periods of early life, such as different trimesters of intrauterine life. This novel definition arguably controls for unobserved regional-level confounders since I am able to observe variation in exposure within locations, by month of birth. I find negative treatment effects on educational attainment and labor income for exposed individuals. The effects are heterogeneous across timing of exposure and are stronger for the first trimester of intrauterine life.

For further research on this topic, I aim to address the mechanisms that might drive the effects of exposure to malaria on adult socioeconomic conditions. Specifically, I plan on testing the hypothesis that malaria infections hamper cognitive development by comparing cognition test scores of children who were more and less exposed to malaria while in utero.

“For Stagnation to Growth: The Role of Expropriation Risk on the Fertility Transition”, with Stephen L. Parente

In an effort to understand the fertility transition dynamics, Stephen Parente and I ask why did societies choose fertility rates so as to maintain a constant living standard prior to the modern economic growth era. That is, if societies are able to define their optimal population size, why not choosing a population consistent with escaping the Malthusian
trap and taking-off into sustained economic growth? We propose a novel theory of fertility choices, accounting for the Malthusian population dynamics, in which societies face a positive risk of land expropriation. Unpopulated, or sparsely populated areas, are more likely to be appropriated by outsiders than well-guarded and populated areas. During Malthusian phase of development, land is a fixed and important factor in the production process, thereby population size should be consistent with the ability of societies defending the land against expropriation when maximizing living standards. We show that under risk of expropriation, societal fertility choices are consistent with Malthusian predictions, in which improvements in usable knowledge does not lead to increases in living standards, as wealthier societies face higher risk of invasion.

In the next step of the research agenda, we plan to test the theory by calibrating the model to the experience of England during pre-modern times. Moreover, we propose an extension of Hansen and Prescott (2002)’s unified model of development, where population growth is endogenously determined by the proposed mechanism. The main feature of the model is explaining the demographic transition experienced by European countries with the take-off into self-sustained development through the loss of relative importance of land in the production process with the industrialization. Thus, when land is no longer worth defending – at least not as much as before 1700 – the model endogenously generates the demographic transition, in which societies are able to reduce fertility, while taking-off into modern economic growth.

**In the Future**

In the years to come, I aim to expand my research on the long-term consequences of early life environment by exploring different mechanisms that lead to its effects on different dimensions of development. For example, studying the implications of climatic shocks that affect individuals in heterogeneous ways, such as extreme weather variations causing droughts or other natural disasters, is a line of research that interests me as a researcher aiming to address long-run causal questions.

The broad perspective of this project allows me to relate my field of expertise with other areas of study, such as geography, political economy, labor economics, among others. This interdisciplinary aspect of the economic research is what drives me to pursue academic work. It pushes me to always seek new knowledge and connect it with both my research and teaching. It also widens the scope for collaborative work with not only peers but also students from different areas of expertise. Working collaboratively with colleagues and engaging students in my research are objectives I have for my professional academic career, as I am an enthusiastic of learning and sharing new knowledge.

**References**