

RESEARCH STATEMENT

My research interests are macroeconomics, development economics, international economics, or applied econometrics/economics with focus centers on macroeconomic productivity and the reallocation of resources across various economic sectors. By integrating macroeconomic models with sector-level and country-level data, I strive to provide insight into the factors that influence sectoral productivities and convergence. Specifically, my work investigates the impact of financial development on the speed of convergence at the sector level through technology adoption. Additionally, I examine how trade, finance, and intersectoral linkages shape the patterns of structural transformation in countries. Overall, my research currently encompasses two key areas: (1) Finance and Development, and (2) Trade, Structural Transformation, and Sustainable Growth.

(1) Finance and Development

My paper [Financial Development, Technology Adoption, and Sectoral Productivity Convergence](#) develops a multisector growth model that incorporates empirical evidence on technology adoption and financial development. This model allows for the analysis of sectoral productivity convergence among different groups of countries. By categorizing countries based on their levels of financial institutions and aggregate productivity, I demonstrate how convergence occurs among groups with differing initial conditions. Empirical evidence from the World Development Indicators dataset supports the model's predictions.

In my second paper, [Financial Development, Globalization, and Structural Transformation in Developing Countries](#), I investigate the dynamics of industrialization and deindustrialization in developing countries and their integration with earlier industrialized economies. I emphasize the crucial role of financial development in both accelerating industrialization and facilitating deindustrialization. Additionally, the model reveals how the discrepancy in technological proximity with the frontier between sectors influences the productivity growth rates, leading to premature deindustrialization. This research contributes to our understanding of the factors driving deindustrialization in developing countries in a globalized world.

My future research plan involves a comprehensive exploration of the connections between convergence at the aggregate level and the dynamics of convergence at the sector level. I will specifically focus on investigating the role of technology adoption and financial development in shedding light on the underlying mechanisms that drive the observed patterns of "converging to convergence" at the aggregate level. By conducting in-depth analyses in these areas, I aim to provide valuable insights into the complex dynamics of convergence in both macroeconomic and sectoral contexts.

(2) Trade, Structural Transformation, and Sustainable Growth

My nearly completed work in progress, titled *"Innovation, Trade, and Structural Change"*, addresses the disparity between employment and value-added shares during the process of structural transformation. I propose a Schumpeterian framework that incorporates technological innovation and trade at the sector level. This framework provides distinct predictions regarding employment and value-added shares, particularly focusing on South Korea's manufacturing sector. By analyzing the impact of

trade and innovation on sectoral linkages, I explore how changes in input-output relationships contribute to observed structural shifts.

Currently, I am working on two projects. The first project, "Time Varying Sectoral Linkages and Structural Change" joint with [Isambert Leunga](#) (from University of Sherbrooke) documents the variations in intersectoral dependencies over time, focusing on South Korea. By employing a three-sector, open-economy model of structural change, we aim to elucidate how dynamics in input-output linkages contribute to the observed structural shifts in South Korea.

The second ongoing project, "Technology Adoption, Structural Change, and Biodiversity", joint with [Matías Piaggio](#) and [Juha Siikamäki](#) (both from IUCN¹), examines the relationship between economic growth and biodiversity threat. Using panel fixed effects estimation methods, the study analyzes changes in aggregate extinction risk across species groups, technology adoption, and economic structural change. The objective is to project future changes in species extinction threat, considering economic and population growth, as well as the potential impact of increasing protected areas coverage. This research aims to enhance our understanding of the intricate relationship between economic development and biodiversity conservation, contributing to the achievement of the Sustainable Development Goals.

As part of my future research endeavors, I aspire to publish my work in major journals to disseminate the findings and contribute to the existing literature. Furthermore, I am open to collaborations with fellow researchers to explore new ideas and expand the scope of my research in areas related to macroeconomics, development economics, international economics, or applied econometrics.

¹ IUCN : International Union for Conservation of Nature, Washington D.C.