

# Komla AVOUMATSODO

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## RESEARCH INTERESTS

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Macroeconomics, Development Economics, International Trade, Environmental Economics, Applied Econometrics.

## REFERENCES

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- [Pavel Ševčík](#), Associate Professor and advisor (UQAM), [sevcik.pavel@uqam.ca](mailto:sevcik.pavel@uqam.ca)
- [Alain Paquet](#), Full Professor and co-advisor (UQAM), [paquet.alain@uqam.ca](mailto:paquet.alain@uqam.ca)
- [Sophie Osotimehin](#), Associate Professor (UQAM), [osotimehin.sophie@uqam.ca](mailto:osotimehin.sophie@uqam.ca)
- [Julien Martin](#), Full Professor (UQAM), [martin.julien@uqam.ca](mailto:martin.julien@uqam.ca)

## EDUCATION

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| 2017–2024 | <i>Ph.D. in Economics</i> , <a href="#">University of Quebec at Montreal (UQAM)</a> , Canada.<br>Dissertation: Essays on Innovation and Development.<br>Supervisors: Pavel Ševčík and Alain Paquet (Université du Québec à Montréal) |
| 2013–2016 | <i>M.A. in Statistics and Economics</i> , <a href="#">ENSEA</a> , Côte d'Ivoire.<br>Thesis : Financial Liberalization, Financial Development, and Institutions Quality<br>Supervisor: Coffie José N'guessan (CIREs)                  |
| 2009–2012 | <i>B.Sc. in Mathematics and Physics</i> , <a href="#">Université de Lomé</a> , Togo.<br>Concentration : Mathematics  |

## RESEARCH

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### WORKING PAPERS

- *Financial Development, Technology Adoption, and Sectoral Productivity Convergence*, Job Market Paper
- *Financial Development, Globalization, and Structural Transformation in Developing Countries*
- *Innovation, International Trade, and Structural Change*

## WORK IN PROGRESS

- "Technology Adoption, Structural Change and Biodiversity", joint with [Juha Siikamäki](#) and [Matías Piaggio](#).
- "Time-Varying Sectoral Input-Output Linkages and Structural Change", joint with [Isambert Leunga Noukwé](#).
- "Organic Farming versus Conventional Farming: Adoption, Transition, and Profitability", joint with [Moustapha Thiam](#)

## TEACHING EXPERIENCE

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### GRADUATE

- International Finance, M.A. | **Instructor**, [ENAP](#)  
*Winter 2024*
- Economic Globalization, M.A. | **Instructor**, [ENAP](#)  
*Summer 2024*
- Quantitative Macroeconomic Methods, Ph.D. | **Teaching Assistant**, [UQAM](#)  
*Fall 2018, Fall 2019, Fall 2023.*
- Advanced Microeconomics II, Ph.D. | **Teaching Assistant**, [UQAM](#)  
*Winter 2019, Winter 2020, Winter 2021, Winter 2022, Winter 2023.*
- Econometrics of Finance, M.A. | **Teaching Assistant**, [UQAM](#)  
*Fall 2018, Fall 2019, Winter 2020, Fall 2020, Winter 2021, Fall 2021, Fall 2022.*

### UNDERGRADUATE

- Intermediate Macroeconomics, B.A. | **Instructor**, [UQAM](#)  
*Winter 2019, Winter 2020, Winter 2021, Winter 2022, Winter 2023.*
- Microeconomics I, B.A. | **Teaching Assistant**, [UQAM](#)  
*Summer 2020, Fall 2020, Fall 2021, Fall 2021*

## NON-TEACHING WORK EXPERIENCE

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| <i>May 2023 – Feb. 2024</i>  | Research Fellow, <a href="#">International Union for Conservation of Nature</a> , Washington D.C.<br><i>Collaboration with a team of researchers to conduct extensive research on Technology Adoption, Structural Change and Biodiversity.</i>   |
| <i>Aug. 2016 – June 2018</i> | Statistician Consultant, <a href="#">World Bank Group</a> , Washington D.C. (hybrid).<br><i>Ensuring data quality and accuracy, conducting data analysis and statistical modeling to support research and policy development.</i>  |
| <i>Aug. 2015 – Aug. 2016</i> | Statistician-Economist, <a href="#">Ivorian Center for Economic and Social Research</a> , Abidjan.<br><i>Analyzing data, reviewing scientific literature, and synthesizing findings to contribute to the understanding of the structural transformation differences between South Korea and Côte d'Ivoire.</i> |

## PRESENTATIONS

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2024	University of Northern British Columbia, Prince George (April) Calvin University, Grands Rapids (February) Graduate Student Conference of ESG-UQAM , Montreal (January)
2023	Canadian Economics Association, Winnipeg (June) 18th CIREQ Ph.D. Students' Conference, Montreal (May) UQAM Seminar, Montreal (March) Quebec Social Sciences PhD Students Presentations, Montreal (February)
2022	Bank of Canada Graduate Student Paper Award, Ottawa (September) Canadian Economics Association, Ottawa (June) 17th CIREQ Ph.D. Students' Conference , Montreal (June) African Econometric Association, Addis-Abeba (May) Université du Québec à Montréal, Montreal (April)
2021	Quebec Social Sciences PhD Students Presentations, Montreal (August) Université du Québec à Montréal, Montreal (March) Quebec Social Sciences PhD Students Presentations, Montreal (February)
2020	Université du Québec à Montréal, Montreal (March)

## FELLOWSHIPS AND CERTIFICATES

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2024	Best research paper presentation, ESG-UQAM
2022 – 2023	Scholarships from <i>Fondation UQAM</i>
2017 – 2021	Scholarships from <i>UQAM and the National Bank of Canada</i>
2013 – 2016	Scholarship from <i>Centre d'Appui aux Ecoles de Statistiques Africaines</i> .
2015	1st laureate of the <i>Writing Competition</i> of the National School of Statistics and Applied Economics (ENSEA): Best economic analysis.
2014	2nd laureate of the <i>Innovation Competition of the Engineering Schools</i> of Côte d'Ivoire.

## MEMBERSHIPS AND ACTIVITIES

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2022 – today	<i>Member</i> , Econometric Society and Canadian Economic Association
2022 – today	<i>Parent member</i> and Vice President of School Council, <b>Perce-Neige Primary School</b> , QC.
2021 – 2022	<i>Parent member</i> of School Council, <b>Harfang Des Neiges Primary School</b> , QC.
2020 – today	<i>Treasurer</i> of the Board of Directors, <b>CPE AMBCAL</b> , QC.
2018 – 2020	<i>Vice President</i> for Professional Affairs, Association of Graduate Students in Economics ( <b>AECSE</b> ) at UQAM, QC.
2013 – 2015	<i>Financial Director</i> , <b>Junior Services Enterprise (EJS)</b> of the National School of Statistics and Applied Economics (ENSEA), Côte d'Ivoire.

## OTHER

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<b>Softskills</b>	Stata, R, Python, Matlab, Eviews, SPSS, LaTeX, Microsoft Office.
<b>Language</b>	English : <i>Fluent</i> ; French: <i>Native</i> .
<b>Legal Status</b>	Permanent Resident of Canada ; Citizenship : <i>Togo</i> .

## RESEARCH SUMMARY

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### *Working Papers*

#### **Financial Development, Technology Adoption, and Sectoral Productivity Convergence**

I document a notable differences in convergence speed across sectors and construct an endogenous growth model to elucidate the reasons behind these observed discrepancies. The model categorizes countries into three groups based on their levels of financial institutions and aggregate productivity. Initially, the first group, characterized by low aggregate productivity and weak financial institutions, experiences sectoral productivity divergence but eventually catches up with the second group. The second group demonstrates moderate levels of aggregate productivity and financial institutions, showcasing conditional convergence. On the other hand, the third group, characterized by high aggregate productivity and strong financial institutions, experiences unconditional convergence towards higher sectoral productivity. The model also suggests that convergence in sectors with faster growth rates at the technological frontier occurs at a later stage. Empirical evidence from the World Development Indicators dataset spanning 29 years and covering over 150 countries supports these and other predictions.

#### **Financial Development, Globalization, and Structural Transformation in Developing Countries**

Rodrik (2016) pointed out that late industrializing countries are experiencing a lower peak at lower income levels in the manufacturing employment share hump-shaped path. The present study develops a theoretical model to analyze the dynamics of industrialization and deindustrialization in developing countries and their integration with earlier industrialized economies. The findings suggest that financial development plays a crucial role in both accelerating industrialization and facilitating deindustrialization. Moreover, the model reveals that when developing countries integrate with economies in deindustrialization, the technological frontier in the manufacturing sector becomes relatively further ahead compared to the services sector. This discrepancy in technological proximity between sectors influences the differential productivity growth rates in manufacturing and services, driving an early shift towards the services sector. The model is calibrated to South African data from 1960 to 2010 and provides empirical support for these findings.

#### **Innovation, International Trade, and Structural Change**

Traditional theories of structural transformation fail to account for the disparities between employment and value added shares, which poses a significant puzzle. To address this issue, I propose a Schumpeterian framework, incorporating technological innovation and trade at the sector level. This framework makes distinct predictions regarding employment and value added shares. In a closed economy, the model establishes an equilibrium where the share of value added equals the share of employment. However, when a country opens up to trade and achieves a monopoly through innovation in a specific sector, it results in higher profits and greater value added relative to employment in that sector. Consequently, the share of value added increases more rapidly than the share of labor. Conversely, in sectors where the country lacks global monopolistic control, the share of value

added diminishes due to lower profits for intermediate good producers, resulting in a value added share that is lower than the employment share.

## ***Work in Progress***

### **Time-Varying Sectoral Input-Output Linkages and Structural Change**

*Joint with* [Isambert Leunga Noukwé](#)

We have documented a significant dynamic in input shares within all three sectors (agriculture, manufacturing, and services) for South Korea during the period from 1965 to 2014. This finding implies notable transformations in intersectoral dependencies throughout the analyzed timeframe. Such changes can be attributed to various factors, including technological advancements, shifts in production patterns, fluctuations in input prices, and evolving economic structures. By employing a three-sector, open-economy model of structural change, our objective is to elucidate how dissimilarities in input-output linkages contribute to the observed structural shifts in South Korea manufacturing employment shares.

### **Technology Adoption, Structural Change, and Biodiversity**

*Joint with* [Juha Siikamäki](#) and [Matías Piaggio](#)

This study examines the relationship between economic growth and biodiversity threat, aiming to provide insights for public policy decisions regarding structural economic system change for nature conservation. Using panel fixed effects estimation methods, this research aims to analyze data on the changes in aggregate extinction risk across species groups, technology adoption, and economic structural change. The primary focus of the statistical estimation results will be to project future changes in the risk of species extinction, specifically in the years 2050 and 2100, considering economic and population growth, as well as the potential impact of increasing protected areas coverage to mitigate these threats. The findings of this study will contribute to a deeper understanding of the intricate relationship between economic development and biodiversity conservation, ultimately facilitating enhanced comprehension of the synergies and trade-offs involved in achieving the objectives outlined in the Sustainable Development Goals (SDGs).

### **Organic Farming versus Conventional Farming: Adoption, Transition, and Profitability**

*Joint with* [Moustapha Thiam](#)

The departure of Quebec farmers from the organic agriculture sector in 2023 accounted for over 46% of new entrants. This article presents a dynamic theoretical model aimed at analyzing the profitability and transition dynamics between the organic and conventional agriculture sectors. Empirical evidence suggests that the adoption of organic agriculture is positively associated with the relative price between organic and conventional products, while it shows a negative correlation with the relative yields of various crops. The model underscores the necessity of implementing subsidies for transitioning farmers, in addition to taxes on pesticide use, to facilitate the uptake of organic agriculture. Furthermore, optimal environmental taxation on conventional goods is identified, along with the optimal allocation of conventional agriculture land to mitigate potential long-term negative externalities resulting from conventional production through environmental regeneration. Additionally, the study examines farmer adoption and transition dynamics within an uncertain environment, considering the potential emergence of new pests.

[Last Updated: April 26, 2024](#)