Duc M. Nguyen

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Citizenship: Canadian and Vietnamese

Research Interests: Macroeconomics, Economic Development, Growth

Education

Ph.D. in Economics, University of Toronto — 2025 (Expected)
Committee: Diego Restuccia (supervisor), Margarida Duarte, Gueorgui Kambourov

M.A in Economics, University of Toronto — 2019

B.A in Economics, Illinois Wesleyan University — 2017

Visiting Student in Economics, University of Oxford — 2015

Working Papers

Openness to Foreign Firms, Industrialization and Aggregate Growth (Job Market Paper)

Heterogeneous Paths of Structural Transformation, *submitted*

The Micro and Macro Productivity of Nations with Stephen Ayerst (IMF) and Diego Restuccia (University of Toronto and NBER), *submitted*

Lobbying, Innovation and Aggregate Productivity with Nasir Hossein Dad (University of Toronto)

Work in Progress

Resource Allocation and Productivity in Canadian Agriculture with Diego Restuccia (University of Toronto and NBER)

Awards and Grants

Finalist for Bank of Canada Graduate Student Paper Award	2024
SSHRC Doctoral Fellowship (CAD 40,000)	2022 - 2024
University of Toronto Doctoral Fellowship (CAD 90,000)	2019 - 2024
Illinois Wesleyan University Alumni Scholarship (USD 88,000)	2013 - 2017
Professor Margaret Chapman Memorial Scholarship for outstanding economics student	2017
1st place out of 70 in Michigan Autumn Take-Home (MATH) Challenge	2014

Professional Experience

Teaching Assistant 2018 - present

- ECO 101: Principles of Microeconomics
- ECO 102: Principles of Macroeconomics
- ECO 200: Microeconomic Theory
- ECO 202: Macroeconomic Theory and Policy
- ECO 362: Economic Growth
- ECO 365: International Monetary Economics
- ECO 370: The Economics of Organizations
- ECO 2010: Mathematics and Statistics for PhD Students
- ECO 2120: Topics in Growth and Development

Research Assistant 2019 - 2023

- Professor Diego Restuccia: Develop theoretical models and perform a quantitative analysis of the effect of labor supply on structural transformation.
- Professor Margarida Duarte: Collect data and perform empirical analysis on the effect of labor supply on structural transformation.
- Professor Joseph Steinberg: Conduct computational tasks for trade dynamics models featuring firm heterogeneity.
- Professor Xiaodong Zhu: Develop theoretical models studying the impacts of migration barriers on human capital accumulation.

Conference and Seminar Presentations

Bank of Canada Graduate Student Paper Award Workshop (Ottawa)	2024 (scheduled)
North American Summer Meeting of the Econometric Society (Nashville)	2024
Canadian Economics Association Conference (Toronto)	2024
2nd Annual Conference on the Asian and Global Economy (HKU)	2024
Midwest Macroeconomics Meetings (Clemson)	2023
Canadian Economics Association Conference (Ottawa)	2022
North American Summer Meeting of the Econometric Society (Miami)	2022
Macro Brown Bag, University of Toronto	2020 - 2024

Academic Service

Co-organizer, Macro Development (MacDev) Workshop, University of Toronto	2023
Co-organizer, Macro Development (MacDev) Reading Group, University of Toronto	2022 - 2024

Languages

Vietnamese (native), English (fluent)
Programming: Python, Stata, R, MATLAB, Julia, Fortran, EViews

References

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Abstracts

Openness to Foreign Firms, Industrialization and Aggregate Growth

(Job Market Paper)

This paper investigates the impact of openness to foreign firms on aggregate productivity. The analysis focuses on Vietnam's major policy reforms between 2000 and 2015, which aimed to reduce barriers to foreign firms in the manufacturing sector. I use firm-level data and develop a multi-sector structural transformation model of production heterogeneity in which domestic and foreign firms make decisions on entry and technology investment while facing different institutional distortions. I find that measured distortions affecting foreign firms were initially larger but have substantially decreased, converging to those of domestic firms over time. Reducing distortions for foreign firms increases the annualized growth rate of manufacturing productivity by 3.34 percentage points, accounting for 60% of the observed growth. The effect occurs via two channels: (1) improving resource allocation across foreign and domestic firms and (2) incentivizing technology upgrades and the entry of higher-productivity foreign firms. I further show that the aggregate impact of the reforms extends beyond manufacturing, with substantial indirect effects on agriculture and services, supported by empirical evidence from difference-in-differences estimation and quantitative results from counterfactual experiments in the model.

Heterogeneous Paths of Structural Transformation

I establish new facts and explanations on the heterogeneous paths of structural transformation across countries. First, many countries exhibit flat-manufacturing profiles without noticeable signs of deindustrialization, which differ from the conventional steep-manufacturing hump-shaped profiles in advanced economies. Second, substantial heterogeneity exists in the labor allocation within services sector as flat-manufacturing countries tend to allocate substantially more labor into low-skilled services compared to steep-manufacturing countries. Third, heterogeneous structural transformation paths are prevalent among both earlier and later developers and not subject to the timing of development. Using a standard model of structural transformation, I find that observed differences in sectoral productivity growth are not quantitatively sufficient to generate the heterogeneous paths of structural transformation across countries. Instead, differences in relative productivity levels between manufacturing and low-skilled services account for around the majority, around 70%, of the heterogeneity, suggesting that country-specific factors are key. I show that the observed heterogeneous paths of structural transformation contribute substantially to economic growth outcomes across countries.

The Micro and Macro Productivity of Nations

with Stephen Ayerst (IMF) and Diego Restuccia (University of Toronto and NBER)

We examine aggregate productivity differences across nations using cross-country firm-level data and a quantitative model of production heterogeneity with distortions featuring operation decisions (selection) and productivity-enhancing investments (technology). Empirically, less developed countries feature higher distortions and larger dispersion in firm-level productivity, mostly resulting from the higher prevalence of unproductive firms. Quantitatively, measured cross-country differences in the elasticity of distortions with respect to firm productivity generate the bulk of empirical patterns and over two-thirds of cross-country labor productivity differences. Both selection and technology channels are important. Variation in static isallocation also plays an important role, albeit smaller.

Lobbying, Innovation and Aggregate Productivity

with Nasir Hossein Dad (University of Toronto)

We study the impact of firm's lobbying activities on innovation and aggregate productivity in the United States. We build a quantitative model where firms make decisions about lobbying and R&D investments to grow. In the model, lobbying can either complement R&D by increasing its returns or substitute for R&D as an alternative way to boost profits, making the net effect theoretically ambiguous. To determine which effect dominates on average, we use firm-level lobbying data and a shift-share instrumental variable strategy to estimate the causal effect of lobbying on R&D expenditure. We find that lobbying expenditure significantly reduces R&D expenditure at the firm level. We structurally calibrate the model and show that eliminating lobbying increases aggregate productivity in the U.S. by 3.5%. The gains are primarily driven by improvement in firm-level productivity distribution, through an increase in firm-level innovation.

Resource Allocation and Productivity in Canadian Agriculture

with Diego Restuccia (University of Toronto and NBER)

We examine resource allocation and productivity growth among Canadian farms from 1986 to 2006 using panel data from the Census of Agriculture and a quantitative model of production heterogeneity with distortions featuring worker sorting across sectors and technology adoption decisions. First, we find that resource allocation in Canadian agriculture is substantially more efficient than what previous studies have reported for developing countries, suggesting that resource misallocation is an important factor explaining agricultural productivity gaps between rich and poor countries. Second, we document that Canada experienced rapid agricultural productivity growth, labor reallocation out of agriculture, and substantial land consolidation during this period. Our calibrated model indicates that these trends are largely driven by the adoption of the newly available zero-tillage technology. Third, we show that a counterfactual applying the institutional distortions typical of low-income countries to Canadian agriculture substantially reduces the adoption rate of the new technology, resulting in a much smaller increase in agricultural productivity. This result suggests that institutional distortions generating resource misallocation have larger aggregate consequences by hindering the adoption of new technologies.