ANH H. LE

Goethe University Frankfurt

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PERSONAL INFORMATION

Legal Name: Ha Anh Le. **DOB:** Sep 17, 1996. **Gender:** Male. **Citizenship:** Vietnam.

REFERENCES

Prof. Michael Binder, PhD
Goethe University Frankfurt
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Prof. Volker Wieland, PhD
Goethe University Frankfurt, IMFS
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Prof. Dr. Alexander Meyer-Gohde
Goethe University Frankfurt, IMFS
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Evan Papageorgiou, PhD
Deputy Division Chief
International Monetary Fund (IMF)
epapageorgiou@imf.org

RESEARCH FIELDS

Primary: Macroeconomics, Monetary and Fiscal Policy, Environmental Macroeconomics, Digital Money
Secondary: Macro-Finance, International Macroeconomic and Finance

JOB MARKET PAPER

Climate Change and Carbon Policy: A Story of Optimal Green Macroprudential and Capital Flow Management (Latest Version)

Abstract: What is the macro-financial impact of carbon policy, and how should reserve requirements be set to deal with climate-related transition risks? My empirical evidence shows a 0.6% output loss and a rise of 0.3% in inflation in response to the shock on carbon policy. Furthermore, I also observe financial instability and allocation effects between the clean and highly polluted energy sectors. To have a better prediction of medium and long-term impact, using a medium-large macro-financial DSGE model with environmental aspects, I show the recessionary effect of an ambitious carbon price implementation to achieve climate targets, a 40% reduction in GHG emissions causes a 0.7% output loss while reaching a zero-emission economy in 30 years causes a 2.6% lasting output loss over the medium to longer term. I document an amplified effect of the banking sector during the transition path. The paper also uncovers the beneficial role of pre-announcements of carbon policies in mitigating inflation volatility by 0.2% at its peak, and our results suggest well-communicated carbon policies from authorities and investing to expand the green sector. My findings also stress the use of optimal green monetary and financial policies in mitigating the effects of transition risk and assisting the transition to a zero-emission world. Utilizing a heterogeneous approach with macroprudential tools, I find that optimal macroprudential tools can mitigate the output loss by 0.1% and investment loss by 1%. Importantly, my work highlights the use of capital flow management in the green transition when a global cooperative solution is challenging.

EDUCATION

Goethe University Frankfurt　　　　　　　　　　　　　　　　*2018 - June 2024 (expected)*
Graduate School of Economics, Finance and Management (GSEFM)
Ph.D. Candidate in Economics
Supervisors: Michael Binder and Volker Wieland

Goethe University Frankfurt　　　　　　　　　　　　　　　　　　　　　　　*2018 - 2021*
Graduate School of Economics, Finance and Management
M.Sc. in Quantitative Economics

Vietnamese-German University and Goethe University Frankfurt (Double degree) *2014 - 2018*
B.Sc. Finance and Accounting (Best Graduate)

EMPLOYMENT

International Monetary Fund, U.S. *June 2023 - August 2023*
Summer Intern (FIP) - Asia and Pacific Department
Project: Macro-Financial Impacts of Foreign Digital Money

Goethe University Frankfurt, Germany *2021 - present*
Institute for Monetary and Financial Stability (IMFS)
Research Assistant (Lead Developer) for Epidemic-Macro Model Data Base (epi-mmb.com)
Contact person for Macro Model Data Base (macromodelbase.com)

Goethe University Frankfurt, Germany *October 2018 - 2021*
Chair of International Macroeconomics and Macroeconometrics
Research Assistant

WORKING PAPER

Transition Risk Uncertainty and Optimal Monetary Policy
IMFS Working Paper NO. 187 (with Alexander Dueck)(Revise and Resubmit, Energy Economics)
Abstract: Climate change has become one of the most prominent concerns globally. In this paper, we study the transition risk of greenhouse gas emission reduction in structural environmental-macroeconomic DSGE models. First, we analyze the uncertainty in model prediction on the effect of unanticipated and pre-announced carbon price increases. Second, we conduct optimal model-robust policy in different settings. We find that reducing emissions by 40% causes 0.7% - 4% output loss with 2% on average. Pre-announcement of carbon prices affects the inflation dynamics significantly. The central bank should react slightly less to inflation and output growth during the transition risk. With optimal carbon price designs, it should react even less to inflation, and more to output growth.

Macro-Financial Impacts of Foreign Digital Money
IMF Working Paper No. 2023/249 (with Alexander Copestake, Evan Papageorgiou, Umang Rawat, Brandon Tan, S. Jay Peiris)
Abstract: We develop a two-country New Keynesian model with endogenous currency substitution and financial frictions to examine the impact on a small economy of a stablecoin issued in a large foreign economy. The stablecoin provides households in the domestic economy with liquidity services and an additional hedge against domestic inflation. Its introduction amplifies currency substitution, reducing bank intermediation and weakening monetary policy transmission, worsening the impacts of recessionary shocks and increasing banking sector stress. Capital controls raise stablecoin adoption as a means of circumvention, increasing exposure to spillovers from foreign shocks. A ban on stablecoin payments and a domestic CBDC partially alleviate these effects.

Central Bank Digital Currency and Cryptocurrencies in Emerging Markets
SSRN working paper
Abstract: In this paper, I build a New Keynesian - Dynamic Stochastic General Equilibrium (NK-DSGE) model to examine the implications of CBDCs and cryptocurrencies in an open economy, particularly for emerging markets. In our model, cryptocurrency is implemented as a form of deposit in the banking sector, where bankers can also receive deposits from abroad. Lastly, CBDC is introduced as a payment and savings instrument. I find that cryptocurrency plays a crucial role in the banking sector and has a significant effect on the dynamics of foreign debt, which is highly important for emerging markets. I also conduct optimal monetary policy analyses under different scenarios. Consequently, I uncover that the remuneration in CBDCs can affect the responses of the monetary rate and can maintain the effectiveness of conventional monetary policy, enhancing monetary pass-through. Hence, it assists central bankers in achieving the central bank's targets. However, the effect greatly depends on the design of CBDCs. Lastly, I find that imposing regulations through macroprudential policies on crypto assets can improve the welfare of the economy.

RESEARCH IN PROGRESS

An Environmental Heterogeneous Agent New Keynesian Model (E-HANK-DSGE): The Unequal Consequences of Climate Change

Work in progress

Abstract: The paper provides a heterogeneous agent New Keynesian model (E-HANK-DSGE) incorporating environmental aspects to study how these risks impact various different types of households and firms. The model encompasses diverse households, banks, and firms, providing a comprehensive framework to analyze the distributional effects of carbon pricing and climate risk. Regarding carbon price risk (transition risk), the model demonstrates that firms with higher emission-to-output ratios are more vulnerable to the impacts of carbon price increases. Notably, households with lower incomes tend to experience more pronounced drops in consumption as they struggle to smooth their consumption when the income decreases. This work aims to establish a robust framework for examining the distributional effects of both physical and transition risks and potential policies for mitigation.

Weather, Climate and Physical Risk Uncertainty: Optimal Monetary and Fiscal Policy

Work in progress (with Alexander Dueck)

Abstract: The paper studies the climate (physical) risk in structural environmental (E-DSGE) models. First, we analyze the uncertainty in model prediction on the effect of temperature and weather shock. Second, we conduct optimal model-robust policy in monetary, carbon policy, and fiscal policy. We find that the adverse effects considering model uncertainty are long-lasting and pronounced. Importantly, we find that fiscal policy plays an important role in dealing with the physical risk, especially combined with the optimal carbon tax for increasing fiscal space.

A Structural Model of Vietnamese Economy for Policy Analysis: The Role of FDI

Work in progress (with Michael Binder, Stefan Girstmair, Van-Ha Le)

Abstract: In this paper, we introduce a New Keynesian - Dynamic Stochastic General Equilibrium (NK-DSGE) model of the Vietnamese economy that depicts Vietnam as an open economy interacting with the U.S. and the rest of the world through trade that is subject to the dominant currency pricing paradigm and that occurs as part of the global value chain. We also capture other important institutional characteristics of the Vietnamese macroeconomy through (i) a production sector that in part involves privately-owned, state-owned, as well as foreign direct investment firms that can borrow from abroad and are subject to asymmetric financial frictions, and (ii) an exchange-rate targeting based monetary policy. The model allows us to study the impact of shocks inter alia to total factor productivity, monetary and fiscal policy as well as financial intermediation that originate either in the U.S., in the rest of the world and/or in Vietnam on all economies under consideration, but specifically also the Vietnamese economy.

Capital Requirement Ratio and Climate Policy

Work in progress (with Gazi Salah Uddin)

POLICY PAPER

Macrofinancial Implications of Foreign Crypto Assets for Small Developing Economies
IMF Fintech Note 2023/012 (with Alexander Copestake, Evan Papageorgiou, Brandon Tan)

TEACHING EXPERIENCE

Monetary and Fiscal Policy: Theory and Practice *Oct 2023*
Teaching Assistant

IMFS - Bachelor thesis co-supervision *September 2022-now*
Co-supervisor for bachelor students

GSEFM PhD pre-semester course *September 2021*
Lecturer in Static Optimization

CONFERENCE AND SEMINAR

2023: Fintech Brownbag Seminar (IMF), APD Hybrid Seminar (IMF), Economic Modelling in Policy Institutions Workshop (ESM, discussant), 15th FIW-Research Conference "International Economics", 5th Behavioral Macroeconomics Workshop, 17th annual Dynare Conference (scheduled), 6th Doctoral Workshop on Quantitative Dynamic Economics, Applied Energy Symposium on Low Carbon Cities & Urban Energy Systems (ADBI panel), Economics of climate change and environmental policy (Orleans), Zaragoza Brownbag Seminar, Goethe Internal Seminar, Bonn-Frankfurt-Mannheim PhD Conference 2023 (by co-author)
2022: Goethe Uni "Topics in Quantitative Macroeconomics" Seminar, ADBI-SMU Conference on Digital Finance and Sustainability, RMIT Fintech-Blockchain Conference 2022
2021: Goethe Uni "Topics in Quantitative Macroeconomics" Seminar, Macro Brown Bag Seminar

SCHOLARSHIPS AND AWARDS

Deutschlandstipendium	*2018 - 2020*
Best Graduate, Cohort 2014, B.Sc. in Finance and Accounting, VGU	*2018*
DAAD scholarship	*March 2018 - September 2018*

OTHER ACTIVITIES

Epi-MMB.com: A macro-epi comparison platform https://www.epi-mmb.com/
(with Alexander Dueck, Clara Lindemann, KaiLong Liu, Sirikorn Puangjit, Sofia Semik, Mathias Trabandt, Volker Wieland) (Lead Developers)
Epi-MMB is a replication archive of macroeconomic models with epidemiological features.

Macroeconomic Model Comparison Initiative https://www.macromodelbase.com/
(Leaded by Michael Binder, John Taylor and Volker Wieland) (Contact Person)

VGU- Master of Global Finance and Economics : A member of the Examination Committee for the Master's Program of Global Finance and Economics, Vietnamese German University

OTHER SKILLS

Language : Vietnamese (Native), English (Fluent), German (Pre-Intermediate)

Software : LATEX, Matlab, Dynare, R, Stata, Python